

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:09  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

<b>C Number:</b>	C60015
<b>Lock Date:</b>	Not Entered.
<b>Cage Range:</b>	All
<b>Date Range:</b>	All
<b>Reasons For Removal:</b>	All
<b>Removal Date Range:</b>	All
<b>Treatment Groups:</b>	All
<b>Study Gender:</b>	Both
<b>PWG Approval Date</b>	11/25/1991

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 1

TRT#: 1

SEX: Male

DAY ON TEST: 459

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853085

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Pancreas	Parathyroid Gland	Pituitary Gland
Seminal Vesicle	Skin	Spleen	Stomach - Fore stomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

**MISSING**

Thymus

**OBSERVATIONS**

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney		Congestion	Minimal
		Nephropathy	Mild
Note: CONGESTION	TGLs = 1-4		
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Mammary Gland		Hyperplasia	Minimal
Nose	Lumen, Mucosa, Submucosa	Inflammation	Chronic Active, Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 2	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Dead	<b>DAY ON TEST:</b> 671 <b>HISTO:</b> 862462
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ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Esophagus	Eye
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Islets, Pancreatic
Pancreas	Seminal Vesicle	Skin	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Salivary Glands

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Bone Marrow	Calvarium	Myelofibrosis	Marked
Epididymis		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
		Mineralization	Minimal
Intestine Large	Cecum, Perivascular	Inflammation	Chronic Active, Mild
	Colon	Polyarteritis	Mild
Intestine Small	Jejunum	Autolysis	Marked
Kidney		Glomerulosclerosis	Marked
	Transit Epithe	Hyperplasia	Mild
	Prox Con Tub	Inflammation	Acute, Minimal
	Artery	Mineralization	Minimal
	Renal Tubule	Mineralization	Mild
		Nephropathy	Marked

Note: SEVERE NEPHROPATHY.

Note: THE GLOMERULOSCLEROSIS COULD BE SECONDARY TO THE

Note: NEPHROPATHY TGLs = 5-4

Liver

Bile Duct

Hepatodiaphragmatic Nodule

Hyperplasia

Mild

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 6-3

Note: HDN TGLs = 8-3

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 2	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Dead	<b>DAY ON TEST:</b> 671 <b>HISTO:</b> 862462
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ORGAN AND ACCOUNTABLE SITE STATUS

Lung Note: LEUKEMIA MONUC TGLs = 7-1+2		Leukemia Mononuclear	
Lymph Node	Mesenteric Mesenteric	Infiltration Cellular Leukemia Mononuclear	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Mild
Pancreas Note: DUODENUM. THE USUAL SECTION TAKEN WAS NOT AVAILABLE. Note: THE PIECE OF PANCREAS EVALUATED WAS ATTACHED TO THE			
Parathyroid Gland  Note: ADDITION TO BEING HYPERPLASTIC. THE OTHER PARA- Note: ONE PARATHYROID APPEARS TO HAVE AN ADENOMA IN IT IN Note: HYPERPLASIA TGLs = 9-8 Note: ADENOMA TGLs = 9-8 Note: THE HYPERPLASTIC CHANGES IN THE PARATHYROIDS ARE Note: SECONDARY TO THE CHRONIC NEPHROPATHY. Note: THYROID ALSO CONTAINS FOCAL AREAS OF HYPERPLASIA.		Adenoma Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	Multiple
Preputial Gland Note: ADENOMA TGLs = 2,3-10.1	Bilateral	Adenoma	
Prostate		Inflammation	Chronic Active, Mild
Spleen		Depletion Lymphoid Leukemia Mononuclear	Moderate
Stomach  Note: LEUKEMIA MONUC TGLs = 4-3.1	Glandular, Mucosa Forestomach Forestomach, Muscularis	Dilatation Inflammation Mineralization	Minimal Chronic Active, Minimal Mild
Note: INFLAMMATION TGLs = 10-7 Note: MINERALIZATION TGLs = 10-7			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 2	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 671
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Dead	<b>HISTO:</b> 862462

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes	Interstit Cell	Hyperplasia	Minimal
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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 3	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Interval Sacrifice	<b>DAY ON TEST:</b> 459 <b>HISTO:</b> 853086
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ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Parathyroid Gland	Pituitary Gland
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Preputial Gland

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Mammary Gland		Hyperplasia	Minimal
Nose	Lumen	Inflammation	Acute, Mild
Note: HYPHAE OF UNIFORM DIAMETER ARE COMPATIBLE WITH THE			
Note: VISIBLE WITHIN A SINGLE SIDE OF THE LUMEN OF THE NOSE			
Note: GENUS ASPERGILLUS.			
Note: INFLAMMATORY CELLS. THE DICHOTOMOUS BRANCHING SEPTATE			
Note: WERE CLUSTERS OF FUNGAL HYPHAE SURROUNDED BY ACUTE			
Pancreas		Inflammation	Chronic, Minimal
Prostate		Inflammation	Acute, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Mild
	Interstit Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 3

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 459

**DOSE:** 0 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853086

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA TGLs = 1-6

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 4

TRT#: 1

SEX: Male

DAY ON TEST: 465

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862463

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Prostate	Salivary Glands	Seminal Vesicle
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland Note: ANGIOECTASIS TGLs = 4-8	Cortex	Angiectasis	Mild
Brain Note: LEUKEMIA MONUC TGLs = 7-5.1 Note: INFARCT TGLs = 7-5.1	Cerebellum	Infarct Leukemia Mononuclear	Moderate
Heart		Cardiomyopathy	Mild
Kidney Note: NEPHROPATHY TGLs = 5-4		Nephropathy	Minimal
Liver Note: LEUKEMIA MONUC TGLs = 6-3	Bile Duct	Degeneration Hyperplasia Leukemia Mononuclear	Minimal Mild
Lung		Leukemia Mononuclear	
Lymph Node [ Leukemia Mononuclear TGLS = 1-9 ]	Mesenteric Mandibular	Infiltration Cellular Leukemia Mononuclear	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose Note: SURROUNDED BY ACUTE INFLAMMATORY CELLS. Note: FUNGAL MYCELIA WERE NOTED IN THE LUMEN OF THE NOSE		Inflammation Metaplasia	Chronic Active, Mild Squamous, Mild
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

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**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 4	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 465
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862463

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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Hyperplasia	Minimal

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 5

TRT#: 1

SEX: Male

DAY ON TEST: 718

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862461

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Eye	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Prostate
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea			

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 5-4			
Liver		Angiectasis	Minimal
		Eosinophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
[ Hyperplasia TGLs = 6-3.1 ]			
Lung	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Minimal
Note: MINOR HEMORRHAGES NOTED IN THE LUNG ARE PROBABLY			
Note: RELATED TO CARBON DIOXIDE SACRIFICE AND OR HANDLING			
Note: AT NECROPSY.			
Lymph Node	Mandibular, Sinus	Ectasia	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: BOTH THE MESENTERIC LYMPH NODE AT THE BASE OF THE			
Note: MESENTERY AND ASSOCIATED WITH THE CECUM SHOWED			
Note: FIBROSIS.			
Note: NODE ASSOCIATED WITH THE CECUM ALSO SHOWED MINIMAL			
Note: INFILTRATES OF HISTIOCYTIC CELLS AND PIGMENT. THE			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 5	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Moribund	<b>DAY ON TEST:</b> 718 <b>HISTO:</b> 862461
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**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland Note: WAS CHARACTERIZED BY AGGREGATES OF GOLDEN YELLOW Note: PIGMENT IN ACINAR CELLS. Note: MINOR PIGMENTATION OBSERVED IN THE MAMMARY GLAND		Hyperplasia	Minimal
Nose  Note: CELLS. Note: SEPTATE BRANCHING FUNGAL HYPHAE, PRESUMABLY Note: ASPERGILLUS SPECIES, SURROUNDED BY ACUTE INFLAMMATORY Note: VISIBLE IN THE LUMEN OF THE NOSE WERE NUMEROUS		Inflammation Metaplasia	Chronic Active, Marked Squamous, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Salivary Glands	Sublingual GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Stomach Note: OF GLANDS IN THE MUCOSA OF THE GLANDULAR STOMACH. Note: THE DIAGNOSIS DILATATION REFERS TO MINOR DILATATION	Glandular, Mucosa	Dilatation	Minimal
Testes  Note: ADENOMA TGLs = 3,4-6	Bilateral, Interstit Cell Seminif Tub Interstit Cell Seminif Tub	Adenoma Atrophy Hyperplasia Mineralization	Marked Minimal Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Inflammation	Chronic Active, Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 6

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862465

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Pituitary Gland	Prostate
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Moderate
	Rectum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
[ Nephropathy TGLS = 3-4 ]			
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Note: [ HEPATOCLR CARC ] TGLs = 4,8-3.1			
Lung		Alveolar/Bronchiolar Adenoma	
	Artery	Mineralization	Minimal
Note: [ ALV BRON ADEN ] TGLs = 7-1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Pancreas	Acinus	Atrophy	Minimal
	Acinus	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Mild
	Submandibul GI	Inflammation	Chronic Active, Mild
	Duct, Submandibul GI	Metaplasia	Squamous, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

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<b>ANIMAL ID:</b> 6	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 732
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 862465

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: IN THE DENSITY OF DUCTS AND A CHRONIC ACTIVE INFLAM-  
Note: THE SUBMANDIBULAR SALIVARY GLAND SHOWS A FOCAL INCREASE  
Note: MATION.

Seminal Vesicle		Atrophy	Mild
Note: [ ATROPHY ]	TGLs = 6-6		

Spleen  
Note: FOCAL AREA THERE WAS INCREASE IN THE POOLED BLOOD.  
Note: THE SPLEEN IN GENERAL WAS CONGESTED; HOWEVER, IN A

Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal

[ Atrophy TGLS = 1-6 ]

Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
		Pigmentation	Minimal

Note: FOLLICLE.  
Note: A FEW PIGMENT LADEN MACROPHAGES WERE NOTED WITHIN A

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

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Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 7

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862466

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Nose	Parathyroid Gland
Prostate	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Moderate
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Liver	Bile Duct	Hyperplasia	Minimal
Lung			
Note: MINOR HEMORRHAGES ARE PROBABLY RELATED TO HANDLING			
Note: AT NECROPSY.			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Sublingul GI	Inflammation	Chronic Active, Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Mild
Skin	Subcut Tiss	Inflammation	Chronic, Minimal
Note: [ INFLAMMATION ] TGLs = 3-13			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 7	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 732 <b>HISTO:</b> 862466
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Note: [ ADENOMA ] TGLs = 4-6	Seminif Tub	Mineralization	Minimal
<b>PRIMARY CAUSE OF DEATH</b>	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 8

TRT#: 1

SEX: Male

DAY ON TEST: 543

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862467

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Small - Duodenum
Intestine Small - Ileum	Islets, Pancreatic	Lung	Pancreas
Parathyroid Gland	Salivary Glands	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea			

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Intestine Small	Jejunum	Autolysis	Mild
Kidney		Nephropathy	Mild
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Mild
		Inflammation	Chronic Active, Minimal
Note: [ HDN ] TGLs = 4-3.1			
Lymph Node	Mandibular	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Moderate
Note: VISIBLE IN THE LUMEN OF THE NOSE WERE NUMEROUS			
Note: SURROUNDED BY NEUTROPHILS.			
Note: FUNGAL MYCELIA, PRESUMABLY ASPERGILLUS SPECIES,			
Pituitary Gland	Pars Distalis	Adenoma	
Note: [ ADENOMA ] TGLs = 5-8			
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Marked
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 8	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 543
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862467

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes	Interstitial Cell	Hyperplasia	Minimal
Urinary Bladder		Calculus Micro Observation Only	
		Calculus Micro Observation Only	Moderate

Note: [ CALCUS MIC OBS ] TGLs = 2-9

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PRIMARY CAUSE OF DEATH	-
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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 9

TRT#: 1

SEX: Male

DAY ON TEST: 456

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853087

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Liver	Pancreas	Parathyroid Gland	Prostate
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Testes	Trachea	Urinary Bladder

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Lung	Artery	Mineralization	Minimal
Lymph Node	Pancreatic, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
	Pancreatic	Pigmentation	Minimal
Note: [ ECTASIA ] TGLs = 2-9			
Note: [ PIGMENT ] TGLs = 2-9			
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Inflammation	Acute, Mild
	Mucosa, Submucosa	Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Mild
Note: FUNGAL HYPHAE COMPATIBLE WITH ASPERGILLUS SPECIES.			
Note: VISIBLE WITHIN THE LUMEN OF THE NOSE WERE TANGLES OF			
Pituitary Gland	Pars Distalis	Adenoma	
Note: [ ADENOMA ] TGLs = 3-8			
Preputial Gland		Inflammation	Chronic, Minimal
Note: [ INFLAMMATION ] TGLs = 1-10			
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 9	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853087

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thymus		Depletion Lymphoid	Mild
Thyroid Gland	C Cell	Adenoma	

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862464

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Seminal Vesicle	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 6-4			
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-3			
Note: [ HYPERPLASIA ] TGLs = 7-3			
Note: [ HYPERPLASIA ] TGLs = 10-3			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Minimal
		Hemorrhage	Mild
		Leukemia Mononuclear	
Note: FIBROSIS TGLs = 5-7			
Note: LEUKEMIA MONUC TGLs = 5-7			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862464

ORGAN AND ACCOUNTABLE SITE STATUS

Note: HEMORRHAGE	TGLs = 5-7			
Nose			Inflammation	Chronic Active, Mild
Pancreas	Acinus		Hyperplasia	Minimal
			Leukemia Mononuclear	
			Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis		Adenoma	
	Pars Nervosa		Adenoma	
	Pars Distalis		Hyperplasia	Minimal
Note: ADENOMA	TGLs = 9-8			
Preputial Gland			Inflammation	Chronic Active, Minimal
Prostate			Inflammation	Chronic Active, Minimal
Saliv Glands				
Note: IS PROBABLY RELATED TO HANDLING AT NECROPSY.				
Note: MINOR HEMORRHAGE IN THE SUBLINGUAL SALIVARY GLAND				
Spleen			Depletion Lymphoid	Moderate
			Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-3.1			
Stomach	Glandular, Mucosa		Dilatation	Minimal
	Glandular		Inflammation	Chronic Active, Minimal
Testes	Interstit Cell		Adenoma	
	Interstit Cell		Hyperplasia	Minimal
	Seminif Tub		Mineralization	Minimal

[ Adenoma TGLS = 1-6 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 11

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862468

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Parathyroid Gland	Pituitary Gland
Prostate	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thyroid Gland	Trachea	

INSUFFICIENT TISSUE

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Angiectasis	Minimal
		Clear Cell Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mandibular, Sinus	Ectasia	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Mild
Pancreas	Acinus	Atrophy	Minimal
Preputial Gland		Hyperplasia	Mild
		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Mild
Note: [ ATROPHY ] TGLs = 3-6			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:09  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 11

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 0 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862468

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: [ ADENOMA ] TGLs = 2-6

[ Atrophy TGLS = 1-6 ]

Urinary Bladder

Inflammation

Chronic Active, Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 12

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862469

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Coagulating Gland
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Pituitary Gland	Prostate	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Medulla Cortex	Pheochromocytoma Benign Vacuolization Cytoplasmic	Mild
Note: [ PHEOCHROM BGN ] TGLs = 4-8			
Epididymis		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Note: [ CARDIOMYOPATHY ] TGLs = 5-2.1			
Kidney	Transit Epithe	Hyperplasia Nephropathy	Minimal Moderate
Liver		Leukemia Mononuclear	
Lung	Artery	Inflammation Mineralization	Chronic Active, Mild Minimal
Lymph Node	Mandibular, Sinus Mandibular Mesenteric	Ectasia Hyperplasia Infiltration Cellular	Minimal Lymphoid, Mild Histiocyte, Minimal
Note: [ ECTASIA ] TGLs = 1-9 [ Hyperplasia TGLS = 1-9 ]			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation Metaplasia	Chronic Active, Marked Squamous, Mild
Note: SURROUNDED BY ACUTE INFLAMMATORY CELLS. Note: VISIBLE WITHIN THE LUMEN OF THE NOSE WERE NUMEROUS Note: FUNGAL HYPHAE, PRESUMABLY ASPERGILLUS SPECIES,			
Pancreas		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 12

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862469

**ORGAN AND ACCOUNTABLE SITE STATUS**

Salivary Glands	Duct, Submandibul GI Submandibul GI	Vacuolization Cytoplasmic Hyperplasia Inflammation Atrophy	Minimal Minimal Chronic Active, Mild Mild
Seminal Vesicle Note: [ ATROPHY ] TGLs = 7-6			
Spleen Note: [ FIBROSIS ] TGLs = 3-3.1		Fibrosis Leukemia Mononuclear	Mild
Stomach Note: AREA WHICH APPEARED TO HAVE UNDERGONE SQUAMOUS META- Note: SECTIONING ARTEFACT. Note: PLASIA. IT IS DIFFICULT TO SEE HOW THIS COULD BE A Note: IN A FOCAL AREA OF THE GLANDULAR STOMACH THERE WAS AN	Glandular	Metaplasia	Squamous, Mild
Testes Note: [ ADENOMA ] TGLs = 2-6	Bilateral, Interstit Cell Seminif Tub	Adenoma Atrophy	Marked
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 13

TRT#: 1

SEX: Male

DAY ON TEST: 711

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862471

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Coagulating Gland	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Parathyroid Gland
Pituitary Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Minimal
Bone Marrow	Sternal	Leukemia Mononuclear	
Eye	Sclera	Metaplasia	Osseous, Minimal
Note: NOTED WITHIN THE SCLERA.			
Note: SEVERAL SMALL ISLANDS OF WELL DIFFERENTIATED BONE WERE			
Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 9,10-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 12-1+2+1.1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 13

TRT#: 1

SEX: Male

DAY ON TEST: 711

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862471

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Pancreatic	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ]	TGLs = 7-9		
Note: [ LEUKEMIA MONUC ]	TGLs = 11-8		
Note: [ LEUKEMIA MONUC ]	TGLs = 2-9		
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Seminal Vesicle		Atrophy	Mild
[ Atrophy TGLS = 18-6 ]			
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ]	TGLs = 8-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Marked
Note: [ MINERALIZATION ]	TGLs = 3-6.1		
Note: [ ATROPHY ]	TGLs = 3-6.1		
[ Hyperplasia TGLS = 5-6 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 14

TRT#: 1

SEX: Male

DAY ON TEST: 722

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862470

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Brain	Coagulating Gland
Epididymis	Esophagus	Eye	Intestine Large - Cecum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
	Medulla	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: [ ANGIECTASIS ] TGLs = 6-8			
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Mild
	Rectum	Parasite Metazoan	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: [ NEPHROPATHY ] TGLs = 3-4			
Liver		Clear Cell Focus	
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mandibular, Sinus	Ectasia	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Mammary Gland		Hyperplasia	Minimal
Nose	Nasolacrim Dct	Inflammation	Chronic Active, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul Gl	Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

---

**ANIMAL ID:** 14

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 722

**DOSE:** 0 PPM MALE

**DISP:** Moribund

**HISTO:** 862470

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Seminal Vesicle	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Note: [ ATROPHY ] TGLs = 5-6		Atrophy	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal
Note: [ ADENOMA ] TGLs = 2-6			

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 662

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862472

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Parathyroid Gland	Salivary Glands	Skin
Thyroid Gland	Trachea		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: PHEOCHROM BGN TGLs = 20-8			
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Abscess	Minimal
Note: AND HEMORRHAGE. THIS APPEARS TO BE PART OF DISSEMINATED			
Note: MICROABSCESSES IN THE KIDNEYS AND BRAIN.			
Note: IN A FOCAL AREA OF THE BRAIN THERE WAS A MICROABSCCESS			
Epididymis			
Note: EPIDIDYMIS, APPEARS TO BE BLOOD VESSELS, PROBABLY			
Note: THE PAMPINIFORM PLEXUS.			
Note: THE TISSUE SAMPLED AS BROWN FAT ADJACENT TO THE			
Heart		Abscess	Mild
		Cardiomyopathy	Mild
		Leukemia Mononuclear	
	Atrium	Thrombosis	Moderate
Note: VISIBLE IN THE CENTER OF THE ACUTE ABSCESS WERE			
Note: NECROTIC MYOFIBERS WERE ALSO PRESENT IN THE ABSCESS.			
Note: THROMBUS TGLs = 16-13			
Note: BACTERIAL COLONIES.			
Islets, Pancreatic		Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 662

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862472

ORGAN AND ACCOUNTABLE SITE STATUS

Note: ADENOMA Kidney	TGLs = 4,11-7		Abscess Leukemia Mononuclear Nephropathy	Moderate  Mild
Note: MULTIFOCAL ABSCESSSES WERE NOTED THROUGHOUT THE KIDNEY Note: INCLUDING THE CORTEX, MEDULLA, AND RENAL PAPILLA. Note: ABSCESS Liver	TGLs = 10-4+4.1			
		Bile Duct	Fatty Change Hyperplasia Leukemia Mononuclear	Minimal Mild
Note: FATTY CHANGE Lung	TGLs = 7-3			
Note: LEUKEMIA MONUC Lymph Node	TGLs = 8,21-1+2	Mesenteric Mandibular Mesenteric Pancreatic	Leukemia Mononuclear  Infiltration Cellular Leukemia Mononuclear Leukemia Mononuclear Leukemia Mononuclear	  Histiocyte, Minimal
Note: LEUKEMIA MONUC Note: LEUKEMIA MONUC Note: LEUKEMIA MONUC Mammary Gland	TGLs = 3,17-7.1+8 TGLs = 12-9 TGLs = 4,11-9			
			Hyperplasia Leukemia Mononuclear	Mild
Nose Pancreas			Inflammation Leukemia Mononuclear Vacuolization Cytoplasmic Inflammation	Chronic Active, Mild  Minimal Acute, Minimal
Penis Note: THE EPITHELIUM AND WALL OF THE PENIS. Note: FEW NEUTROPHILS. A FEW NEUTROPHILS WERE ALSO SEEN IN Note: APPEARS TO BE A COAGULUM OF SEMEN ADMIXED WITH A Note: THE SOFT WHITE MATERIAL SEEN AT THE END OF THE PENIS Pituitary Gland				
		Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 662

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862472

ORGAN AND ACCOUNTABLE SITE STATUS

Note: ADENOMA TGLs = 9-8

Preputial Gland

Prostate

Epithelium

Seminal Vesicle

Epithelium

Spleen

Leukemia Mononuclear

Inflammation

Hyperplasia

Inflammation

Hyperplasia

Inflammation

Fibrosis

Leukemia Mononuclear

Chronic Active, Mild

Mild

Chronic Active, Moderate

Mild

Chronic Active, Mild

Mild

Note: LEUKEMIA MONUC TGLs = 5-3.1

Note: FIBROSIS TGLs = 5-3.1

Stomach

Glandular, Mucosa

Forestomach

Glandular

Dilatation

Inflammation

Ulcer

Minimal

Chronic Active, Minimal

Acute, Mild

Note: ULCER TGLs = 6,18-7.2

Note: A HAIR SHAFT WAS NOTED IN THE FOCAL AREA OF ACUTE

Note: INFLAMMATION IN THE FORESTOMACH.

Testes

Interstit Cell

Seminif Tub

Interstit Cell

Seminif Tub

Adenoma

Atrophy

Hyperplasia

Mineralization

Minimal

Minimal

Minimal

[ Adenoma TGLS = 19-6 ]

Urinary Bladder

Leukemia Mononuclear

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 16

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862474

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-8			
Coagulating Gland		Atrophy	Marked
Note: ATROPHY TGLs = 13-6			
Eye		Cataract	Moderate
	Retina	Degeneration	Marked
	Antr Chamber	Hemorrhage	Marked
[ Hemorrhage TGLS = 1-13 ]			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
	Atrium	Thrombosis	Mild
Note: THROMBUS TGLs = 10-2.1			
Intestine Large	Rectum	Parasite Metazoan	Minimal
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
Note: IN THE KIDNEYS.			
Note: ASSOCIATED WITH MONONUCLEAR CELL LEUKEMIA INFILTRATES			
Note: PIGMENTATION IN THE RENAL TUBULES IS COMMONLY			
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 16

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862474

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC	TGLs = 8-3			
Lung		Leukemia Mononuclear		
Note: LEUKEMIA MONUC	TGLs = 9-1+2			
Lymph Node		Mesenteric	Infiltration Cellular	Histiocyte, Minimal
		Pancreatic	Infiltration Cellular	Histiocyte, Minimal
		Mandibular	Leukemia Mononuclear	
		Mesenteric	Leukemia Mononuclear	
		Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-9			
Note: LEUKEMIA MONUC	TGLs = 6-9			
Mammary Gland			Hyperplasia	Mild
Nose			Inflammation	Chronic Active, Minimal
Pancreas			Vacuolization Cytoplasmic	Mild
Pituitary Gland		Pars Distalis	Hyperplasia	Minimal
			Leukemia Mononuclear	
Preputial Gland			Inflammation	Chronic Active, Minimal
Prostate			Inflammation	Chronic Active, Minimal
Salivary Glands		Sublingual GI	Inflammation	Chronic Active, Minimal
		Submandibular GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle			Atrophy	Mild
Note: ATROPHY	TGLs = 14-6			
Spleen			Depletion Lymphoid	Moderate
			Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3.1			
Stomach		Glandular, Mucosa	Dilatation	Minimal
		Glandular	Inflammation	Chronic Active, Minimal
Testes		Bilateral, Interstit Cell	Adenoma	
		Seminif Tub	Atrophy	Marked
		Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 2,3-6			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 17

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862473

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Coagulating Gland
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Skin	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN TGLs = 7-8			
Heart		Cardiomyopathy	Moderate
Kidney		Cyst	Mild
	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 5-4			
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6,14-3			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 10-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Mesentery	Artery	Inflammation	Chronic, Minimal
Note: INFLAMMATION TGLs = 3-13			
Note: THE MASS IN THE MESENTERY DESCRIBED BY THE PROSECTOR			
Note: APPEARED TO BE A COMPLEX OF MESENTERIC ARTERIES.			
Nose		Inflammation	Chronic Active, Moderate
		Metaplasia	Squamous, Mild
Note: SURROUNDED BY ACUTE INFLAMMATORY CELLS.			
Note: A MAT OF FUNGAL HYPHAE, PRESUMABLY ASPERGILLUS SPECIES,			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 17

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862473

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: IN ADDITION TO THE AFOREMENTIONED LESIONS THERE WAS

Pancreas		Leukemia Mononuclear Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
[ Atrophy TGLS = 11-6 ]			
Spleen		Fibrosis Leukemia Mononuclear	Minimal
Note: LEUKEMIA MONUC TGLs = 4-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Glandular	Fibrosis	Minimal
	Glandular	Inflammation	Chronic Active, Minimal
Note: FIBROSIS TGLs = 8,9-13			
Note: INFLAMMATION TGLs = 8,9-13			
Testes	Bilateral, Interstit Cell Seminif Tub	Adenoma Atrophy	Marked
Note: ADENOMA TGLs = 1,2-6			
[ Atrophy TGLS = 1-6 ]			
Thymus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 18

TRT#: 1

SEX: Male

DAY ON TEST: 435

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862477

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
		Pigmentation	Minimal
Note: PIGMENT TGLs = 5-3			
Note: IN A FOCAL AREA OF THE LIVER THERE WAS SOME OLIVE			
Note: GREEN PIGMENT.			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Plasma Cell, Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 3-9			
Nose		Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Seminal Vesicle		Atrophy	Mild
Testes	Interstit Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 18

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 435

**DOSE:** 0 PPM MALE

**DISP:** Moribund

**HISTO:** 862477

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 19

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862475

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Pituitary Gland	Skin	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Moderate
Note: PHEOCHROMOCYTOMA, BUT WERE READ OUT AS HYPERPLASIA.			
Note: THE MEDULLARY LESIONS WERE ON THE BORDER LINE OF A			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Note: NEPHROPATHY TGLs = 6-4			
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Mild
Note: CELLS.			
Note: WERE AGGREGATES OF HISTIOCYTES AND OTHER MONONUCLEAR			
Note: THROUGHOUT THE LIVER. IN THE AFFECTED AREAS THERE			
Note: FOCAL AREAS OF CHRONIC INFLAMMATION WERE NOTED			
Lung	Artery	Alveolar/Bronchiolar Carcinoma	
		Mineralization	Minimal
Note: THAN AN ADENOMA.			
Note: ALV BRON CARC TGLs = 7-1			
Note: OF THIS LUNG TUMOR SUGGEST A CARCINOMA RATHER THAN			
Note: THE GREATER DEGREE OF CELLULAR ATYPIA AND THE SIZE			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Preputial Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 19

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862475

**ORGAN AND ACCOUNTABLE SITE STATUS**

Organ	Accountable Site	Status	Notes
[ Adenoma TGLS = 1-10 ]		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Inflammation	Chronic Active, Minimal
Spleen		Infiltration Cellular	Histiocyte, Mild
Note: LYMPHOID NODULES MIGHT ALSO BE DIAGNOSED AS GRAN- Note: INFILTRAT CELL TGLs = 5-3 Note: THE AGGREGATES OF HISTIOCYTIC CELLS WITHIN A FEW Note: ULOMATOUS INFLAMMATION.			
Stomach	Glandular, Mucosa Forestomach	Dilatation Hyperplasia	Minimal Squamous, Minimal
Note: IS TERMED AS SQUAMOUS HYPERPLASIA. Note: THIS LESION CONSISTS OF BASAL CELLS, BUT			
Testes	Bilateral, Interstit Cell Seminif Tub	Adenoma Atrophy	Marked
Note: ADENOMA TGLs = 3,4-6			
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 20

TRT#: 1

SEX: Male

DAY ON TEST: 553

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862476

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Brain
Epididymis	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Trachea	Urinary Bladder	

MISSING

Esophagus	Mammary Gland
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OBSERVATIONS

Bone Marrow	Sternal	Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5,7-3		
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Mild
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
[ Depletion Lymphoid TGLS = 1,2-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 20

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 553

**DOSE:** 0 PPM MALE

**DISP:** Moribund

**HISTO:** 862476

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes	Interstit Cell	Hyperplasia	Minimal
Thymus		Leukemia Mononuclear	
Thyroid Gland	Follicular Cel	Adenoma	

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862478

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Mammary Gland
Parathyroid Gland	Preputial Gland	Salivary Glands	Skin
Stomach - Forestomach	Trachea	Urinary Bladder	

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Mild
Intestine Small	Ileum	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 2-7			
Kidney		Nephropathy	Mild
Note: [ NEPHROPATHY ] TGLs = 6-4			
Liver	Bile Duct	Basophilic Focus	
		Hyperplasia	Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 4-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mesentery	Artery	Fibrosis	Moderate
		Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: [ FIBROSIS ] TGLs = 3-13			
Note: [ LEUKEMIA MONUC ] TGLs = 3-13			
Note: [ INFLAMMATION ] TGLs = 3-13			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862478

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Adenoma	
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: [ ADENOMA ] TGLs = 1-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal
		Pigmentation	Minimal

Note: PIGMENT WITHIN FOLLICLES.

Note: IN A FOCAL AREA THERE WERE AGGREGATES OF GOLD YELLOW

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 22

TRT#: 1

SEX: Male

DAY ON TEST: 695

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862479

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Pituitary Gland	Prostate
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
Kidney		Cyst	Mild
	Transit Epithe	Hyperplasia	Mild
		Nephropathy	Moderate
Note: CYST TGLs = 7-4			
Liver	Bile Duct	Hyperplasia	Minimal
Lung		Foreign Body	Mild
		Inflammation	Chronic Active, Mild
	Artery	Mineralization	Minimal
Note: LODGED IN BRONCHI AND THE PARENCHYMA OF THE LUNG			
Note: INFLAMMATION TGLs = 8,9-1+2			
Note: FOREIGN BODY TGLs = 8,9-1+2			
Note: PIECES OF CELLULOSE, PROBABLY FOOD OR BEDDING WERE			
Note: MATORY RESPONSE.			
Note: WHERE THEY INDUCED A SEVERE ACUTE AND CHRONIC INFLAM-			
Lymph Node	Mandibular	Hyperplasia	Plasma Cell, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Hyperplasia TGLS = 2-9 ]			
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Moderate
Note: PRESUMABLY ASPERGILLUS SPECIES.			
Note: SURROUNDED BY ACUTE INFLAMMATORY CELLS. THE FUNGI ARE			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 22

TRT#: 1

SEX: Male

DAY ON TEST: 695

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862479

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: WITHIN THE LUMEN OF THE NOSE WERE FUNGAL HYPHAE

Pancreas	Acinus	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION	TGLs = 3-10		
Salivary Glands	Submandibul GI	Atrophy	Mild
	Duct, Submandibul GI	Inflammation	Chronic Active, Minimal
	Submandibul GI	Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Spleen		Hyperplasia	Lymphoid, Minimal
Note: THE LYMPHOID HYPERPLASIA IN THE SPLEEN WAS LIMITED			
Note: TO A FOCAL AREA.			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 4,5-6		
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 23

TRT#: 1

SEX: Male

DAY ON TEST: 459

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853088

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Pancreas	Parathyroid Gland
Prostate	Salivary Glands	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Testes
Thymus	Trachea	Urinary Bladder	

**OBSERVATIONS**

Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Inflammation	Acute, Mild
	Mucosa, Submucosa	Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 1-8		
Preputial Gland		Inflammation	Chronic Active, Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 24

TRT#: 1

SEX: Male

DAY ON TEST: 521

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862480

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Parathyroid Gland	Salivary Glands
Skin	Spleen	Trachea	Urinary Bladder

MISSING

Mammary Gland	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Mild
Epididymis			
Note: THE REDDED TISSUE IN THE EPIDIDYMIS APPEARS TO BE			
Note: THE PAMPINIFORM PLEXUS OF VESSELS.			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 3-4		
Liver		Fatty Change	Moderate
Note: FATTY CHANGE	TGLs = 6-3		
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-8		
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Mild
Stomach	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Inflammation	Chronic Active, Marked
	Glandular	Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:09  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 24	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 521
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862480

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: INFLAMMATION TGLs = 4-7.2	Forestomach	Ulcer	Marked
Note: HYPERPLASIA TGLs = 4-7.2			
Note: HYPERKERATOSIS TGLs = 4-7.2			
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 25

TRT#: 1

SEX: Male

DAY ON TEST: 404

DOSE: 0 PPM MALE

DISP: Dead

HISTO: 862481

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Lung	Nose	Parathyroid Gland
Pituitary Gland	Salivary Glands	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Testes	Thymus
Thyroid Gland	Trachea		

**MISSING**

Intestine Small - Ileum	Islets, Pancreatic	Mammary Gland	Pancreas
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**OBSERVATIONS**

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Moderate
	Rectum	Autolysis	Mild
Intestine Small	Duodenum	Autolysis	Marked
	Jejunum	Autolysis	Marked
Kidney		Autolysis	Mild
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION TGLs = 1-10			
Prostate		Inflammation	Chronic Active, Minimal
Stomach	Glandular	Autolysis	Mild
Urinary Bladder		Autolysis	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 26

TRT#: 1

SEX: Male

DAY ON TEST: 456

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853089

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Liver	Nose	Parathyroid Gland
Pituitary Gland	Prostate	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

**OBSERVATIONS**

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Renal Tubule	Inflammation	Acute, Minimal
		Nephropathy	Mild
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas		Atrophy	Minimal
Preputial Gland		Inflammation	Chronic, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal
Testes	Interstit Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 27

TRT#: 1

SEX: Male

DAY ON TEST: 715

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862482

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Nose	Parathyroid Gland
Salivary Glands	Spleen	Thymus	Trachea
Urinary Bladder			

MISSING

Stomach - Forestomach

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Islets, Pancreatic		Hyperplasia	Minimal
Note: IN A FOCAL AREA THERE WAS AND ENLARGED ISLET THAT			
Note: ADENOMA.			
Note: THE RECUTS REVEALED NEITHER THE HYPERPLASIA OR AN			
Note: CUTS HAVE BEEN REQUESTED.			
Note: MIGHT BE AN ADENOMA BUT WAS READ AS HYPERPLASIA. RE-			
Kidney	Transit Epithe	Hyperplasia	Mild
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 6-8		
Preputial Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION	TGLs = 8-10		
Prostate		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 27

TRT#: 1

SEX: Male

DAY ON TEST: 715

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862482

**ORGAN AND ACCOUNTABLE SITE STATUS**

Seminal Vesicle Note: ATROPHY TGLs = 10-6		Atrophy	Minimal
Skin [ Fibrosarcoma TGLS = 1-13 ]	Subcut Tiss	Fibrosarcoma	
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA TGLs = 2,3-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal
		Pigmentation	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:09

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 543

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862485

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Preputial Gland
Salivary Glands	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Small	Ileum	Autolysis	Moderate
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
Lung	Artery	Alveolar/Bronchiolar Adenoma	
		Mineralization	Minimal
[ Mineralization TGLS = 5-2 ]			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Moderate
		Metaplasia	Squamous, Minimal

Note: NEUTROPHILS.

Note: PRESUMABLY ASPERGILLUS SPECIES SURROUNDED BY

Note: WITHIN THE LUMEN OF THE NOSE WERE NUMEROUS FUNGAL MYCELIA

Pituitary Gland	Pars Intermed	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Mild
Skin	Subcut Tiss	Schwannoma Malignant	

Note: IT IS DIFFICULT TO SAY FOR SURE BECAUSE IT IS SO

Note: POORLY DIFFERENTIATED.

Note: [ SCHWANNOMA MAL ] TGLs = 2-13+13.1

Note: THE SUBCUTANEOUS TUMOR COULD BE AN ANGIOSARCOMA; HOWEVER,

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:09

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 28

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 543

**DOSE:** 0 PPM MALE

**DISP:** Moribund

**HISTO:** 862485

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Mild
	Seminif Tub	Mineralization	Minimal

Note: ADENOMA TGLs = 3-6

Urin Bladder

Note: PLANTS FROM THE BOWEL.

Note: WITHIN THE LUMEN OF THE URINARY BLADDER WERE SEVERAL

Note: CROSS SECTIONS OF NEMATODES WHICH I SUSPECT ARE TRANS-

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 29

TRT#: 1

SEX: Male

DAY ON TEST: 696

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862483

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Parathyroid Gland	Thymus
Trachea			

OBSERVATIONS

Adrenal Gland Note: PHEOCHROM BGN TGLs = 14-8	Medulla	Pheochromocytoma Benign	Multiple
Coagulating Gland Note: ATROPHY TGLs = 15-6		Atrophy	Mild
Eye [ Cataract TGLs = 1-14 ] [ Degeneration TGLs = 1-14 ]	Retina	Cataract Degeneration Phthisis Bulbi	Marked Marked Moderate
Heart		Cardiomyopathy	Mild
Kidney Note: NEPHROPATHY TGLs = 9-4	Transit Epithe	Leukemia Mononuclear Hyperplasia Leukemia Mononuclear Nephropathy	Minimal Marked
Liver Note: LEUKEMIA MONUC TGLs = 17-3	Bile Duct	Hyperplasia Leukemia Mononuclear	Mild
Lung Note: LEUKEMIA MONUC TGLs = 12-1+2		Leukemia Mononuclear	
Lymph Node Note: LEUKEMIA MONUC TGLs = 10-2	Mesenteric Mediastinal	Infiltration Cellular Leukemia Mononuclear	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 29	TRT#: 1 DOSE: 0 PPM MALE	SEX: Male DISP: Moribund	DAY ON TEST: 696 HISTO: 862483
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Pancreas	Acinus	Atrophy Inflammation Vacuolization Cytoplasmic	Minimal Chronic Active, Minimal Minimal
Pituitary Gland	Pars Distalis Pars Distalis	Adenoma Hyperplasia	Mild
Note: ADENOMA TGLs = 18-8			
Preputial Gland		Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 3-10			
Prostate		Inflammation	Chronic Active, Moderate
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Note: ATROPHY TGLs = 6+16-6			
Skin	Subcut Tiss	Fibroma	
Note: FIBROMA TGLs = 13-13			
Spleen		Depletion Lymphoid Leukemia Mononuclear	Mild
Note: LEUKEMIA MONUC TGLs = 8-3			
Stomach	Glandular, Mucosa Forestomach	Dilatation Hyperplasia	Minimal Squamous, Minimal
Testes	Bilateral, Interstit Cell Seminif Tub	Adenoma Atrophy	Marked
Note: ADENOMA TGLs = 4,5-6			
Thyroid Gland	C Cell	Hyperplasia	Mild
Urinary Bladder		Calculus Micro Observation Only	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 30

TRT#: 1

SEX: Male

DAY ON TEST: 634

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862484

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

**OBSERVATIONS**

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Note: NEPHROPATHY	TGLs = 2,3-4		
Liver	Bile Duct	Basophilic Focus	
		Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
		Pigmentation	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
Note: THE REDNESS IN THE LUNG WAS RELATED TO ATELECTASIS			
Note: AND POOR INSTILLATION OF FIXATIVE.			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Mammary Gland		Galactocele	Moderate
		Hyperplasia	Moderate
Note: HYPERPLASIA	TGLs = 6-14		
Note: GALACTOCELE	TGLs = 6-14		
Mesentery		Fibrosis	Moderate
		Inflammation	Chronic Active, Mild
		Necrosis	Liquifactive, Mild
Note: NECROSIS	TGLs = 4-13		
Note: INFLAMMATION	TGLs = 4-13		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 30

TRT#: 1

SEX: Male

DAY ON TEST: 634

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862484

ORGAN AND ACCOUNTABLE SITE STATUS

Note: FIBROSIS	TGLs = 4-13			
Nose			Inflammation	Chronic Active, Minimal
Pancreas		Acinus	Atrophy	Minimal
			Inflammation	Chronic Active, Minimal
Pituitary Gland		Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 8-8			
Preputial Gland			Inflammation	Chronic Active, Minimal
Note: INFLAMMATION	TGLs = 9-10			
Prostate			Inflammation	Chronic Active, Moderate
Salivary Glands		Duct, Submandibul GI	Hyperplasia	Minimal
		Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle			Atrophy	Mild
Spleen		Capsule	Inflammation	Chronic, Minimal
Stomach		Glandular, Mucosa	Dilatation	Minimal
Testes		Interstit Cell	Adenoma	
		Seminif Tub	Atrophy	Minimal
		Interstit Cell	Hyperplasia	Minimal

[ Adenoma TGLS = 1-6 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 31

TRT#: 1

SEX: Male

DAY ON TEST: 609

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862488

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Eye	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Islets, Pancreatic	Nose	Pancreas
Parathyroid Gland	Salivary Glands	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Bone Marrow	Sternal	Myelofibrosis	Mild
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ]	TGLs = 26-7		
Intestine Small	Jejunum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Note: [ LEUKEMIA MONUC ]	TGLs = 13,21-4		
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ]	TGLs = 15-3		
Lung		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ]	TGLs = 18,19,24-1+2		
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 31

TRT#: 1

SEX: Male

DAY ON TEST: 609

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862488

ORGAN AND ACCOUNTABLE SITE STATUS

Mesenteric

Leukemia Mononuclear

Pancreatic

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 10-8

Note: [ LEUKEMIA MONUC ] TGLs = 17-2.1

[ Leukemia Mononuclear TGLS = 7-9 ]

Mesentery

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 9,16-14

Pituitary Gland

Pars Distalis

Adenoma

Leukemia Mononuclear

Preputial Gland

Inflammation

Chronic Active, Minimal

Note: [ INFLAMMATION ] TGLs = 22-10

Prostate

Inflammation

Chronic Active, Minimal

Leukemia Mononuclear

Seminal Vesicle

Atrophy

Mild

Skin

Lip

Inflammation

Necrotizing, Acute, Moderate

Squamous Cell Papilloma

Note: REVEALED ACANTHOSIS AND HYPERKERATOSIS WHICH ONE WOULD

Note: OF UNDERLYING TISSUES.

Note: REQUESTED RECUTS OF FOOT LESION TO OBTAIN BETTER SECTION

Note: THE SECTION OF BONE AND SKIN, PRESUMABLY FROM THE FOOT

Note: EXPECT ON A FOOT PAD.

Note: [ PAPILOMA SQUA ] TGLs = 20-10+10.1+10.2

Note: THE RECUTS OF THE FOOT DEMONSTRATED A SQUAMOUS

Note: PAPILOMA.

[ Inflammation TGLS = 4-13 ]

Spleen

Depletion Lymphoid

Moderate

Fibrosis

Mild

Leukemia Mononuclear

Necrosis

Coagulative, Mild

Note: [ LEUKEMIA MONUC ] TGLs = 11,12-3+3.1

Note: [ NECROSIS ] TGLs = 12-3

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 31

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 609

**DOSE:** 0 PPM MALE

**DISP:** Moribund

**HISTO:** 862488

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**ORGAN AND ACCOUNTABLE SITE STATUS**

Testes

Bilateral, Interstit Cell

Adenoma

Note: [ ADENOMA ] TGLs = 8-6

Thymus

Leukemia Mononuclear

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 32

TRT#: 1

SEX: Male

DAY ON TEST: 633

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862486

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Skin	Trachea
Urinary Bladder			

MISSING

Mammary Gland	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 11-5			
Heart		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 5-8			
Mesentery		Fibrosis	Minimal
		Necrosis	Liquifactive, Mild
Note: [ FIBROSIS ] TGLs = 1-10			
[ Fibrosis TGLS = 1-10 ]			
Pancreas		Leukemia Mononuclear	
Pituitary Gland		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 32	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 633
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862486

ORGAN AND ACCOUNTABLE SITE STATUS

Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 7-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 10-7			
Note: [ LEUKEMIA MONUC ] TGLs = 10-7			
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Mild
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal
Note: [ ADENOMA ] TGLs = 2,3,4-6			
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Carcinoma	
Note: [ CARCINOMA ] TGLs = 8-8			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 33

TRT#: 1

SEX: Male

DAY ON TEST: 529

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862490

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Eye
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Pancreas
Parathyroid Gland	Prostate	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea		

MISSING

Urinary Bladder

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Degeneration	Mild
	Bile Duct	Hyperplasia	Minimal
Note: A PECULIAR EOSINOPHILIC CHANGE AFFECTS SCATTERED HEPATO- CYTES.			
Note: DEGEN	TGLs = 6-3		
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Moderate
		Inflammation	Chronic Active, Moderate
		Necrosis	Liquifactive, Mild
Note: INFLAMMATION TGLs = 8-13			
Note: FIBROSIS TGLs = 8-13			
Note: NECROSIS TGLs = 8-13			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 7-8		
Preputial Gland		Adenocarcinoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 33	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 529
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862490

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenocarcinoma TGLS = 3-14 ]			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Testes	Interstit Cell	Hyperplasia	Minimal

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 34

TRT#: 1

SEX: Male

DAY ON TEST: 567

DOSE: 0 PPM MALE

DISP: Moribund

HISTO:

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Esophagus		Ulcer	Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Moderate
Note: [ NEPHROPATHY ] TGLs = 8-4			
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Foreign Body	Mild
		Inflammation	Chronic Active, Marked
Note: IN THE ACUTELY INFLAMMED BRONCHI AND ALVEOLI.			
Note: [ INFLAMMATION ] TGLs = 4-1+2			
Note: FRAGMENTS OF POLARIZABLE PLANT MATERIAL WERE VISIBLE			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Foreign Body	Mild
		Inflammation	Chronic Active, Marked
Note: OF ACUTE INFLAMMATION WITHIN THE NOSE.			
Note: CROSS SECTIONS OF PLANT MATERIAL WERE NOTED IN THE AREAS			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 34	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Moribund	<b>DAY ON TEST:</b> 567 <b>HISTO:</b>
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal

Note: [ ADENOMA ] TGLs = 2-6

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PRIMARY CAUSE OF DEATH -

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 35

TRT#: 1

SEX: Male

DAY ON TEST: 676

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862487

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Parathyroid Gland	Salivary Glands
Seminal Vesicle	Spleen	Stomach - Forestomach	Testes
Thymus	Trachea		

OBSERVATIONS

Adrenal Gland	Medulla Cortex	Pheochromocytoma Benign Vacuolization Cytoplasmic	Mild
[ Pheochromocytoma Benign TGLS = 6-8 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Moderate
Liver	Bile Duct	Hepatodiaphragmatic Nodule Hyperplasia	Minimal
Note: [ HDN ] TGLs = 7-3.1			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Mammary Gland		Adenoma Hyperplasia	Multiple Moderate
Note: [ ADENOMA ] TGLs = 3,4-14+15			
Note: [ HYPERPLASIA ] TGLs = 5-10			
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: [ ADENOMA ] TGLs = 8-8			
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Moderate
Skin	Subcut Tiss	Fibroma	Multiple
[ Fibroma TGLS = 1,2-13+13.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 35	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 676
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862487

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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Urinary Bladder	Artery	Necrosis Polyarteritis	Fibrinoid, Mild Mild

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 36

TRT#: 1

SEX: Male

DAY ON TEST: 456

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853090

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Prostate	Seminal Vesicle
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	

MISSING

Parathyroid Gland	Thyroid Gland
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OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Congestion	Mild
	Artery	Mineralization	Minimal
Note: CONGESTION	TGLs = 3,4-1		
Lymph Node	Pancreatic	Hemorrhage	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
	Pancreatic	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
	Pancreatic	Pigmentation	Minimal
Note: HEMORRHAGE	TGLs = 2-9		
Mammary Gland		Hyperplasia	Minimal
Pancreas		Atrophy	Minimal
		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal
Testes	Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 36

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 456

**DOSE:** 0 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853090

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA TGLs = 1-6

Interstit Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 37

TRT#: 1

SEX: Male

DAY ON TEST: 589

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862494

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Eye	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Seminal Vesicle	Spleen	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 8,9-4 ]			
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Note: THE SITE OF THE FATTY CHANGE IN THE LIVER MAY HAVE BEEN THE SITE OF ATTACHMENT OF A SUSPENSORY LIGAMENT			
Note: FATTY CHANGE TGLs = 11-3			
Note: FOR THE LIVER.			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mandibular, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Squamous Cell Carcinoma	Metastatic (Uncertain Primary Site)
Note: ECTASIA TGLs = 4-9			
Note: [ SQUAM CEL CARC ] TGLs = 4-9			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 37

TRT#: 1

SEX: Male

DAY ON TEST: 589

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862494

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Skin		Squamous Cell Carcinoma	

Note: LIP WAS VERY POORLY DIFFERENTIATED.

Note: THE TUMOR ARISING IN THE SUBCUTANEOUS TISSUES OF THE

Note: [ SQUAM CEL CARC ] TGLs = 3-13

Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Inflammation	Chronic Active, Mild
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal

[ Hyperplasia TGLS = 5-6 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 38

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862491

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Parathyroid Gland	Prostate
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Trachea		

**MISSING**

Islets, Pancreatic	Thymus
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**INSUFFICIENT TISSUE**

Intestine Large - Rectum

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Mild
Islets Panc			
Note: EVALUATED.			
Note: THERE WERE NO ISLETS IN THE SECTIONS OF PANCREAS			
Kidney		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 3-4			
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: HDN TGLs = 4-3.1			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 5-1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-9			
Mammary Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 38

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862491

ORGAN AND ACCOUNTABLE SITE STATUS

Nose		Inflammation Metaplasia	Chronic Active, Moderate Squamous, Mild
Note: FUNGAL MYCELIA WERE NOTED IN THE LUMEN OF THE NOSE Note: SURROUNDED BY ACUTE INFLAMMATORY CELLS. THEY ARE Note: PROBABLY ASPERGILLUS SPECIES.			
Pancreas		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Preputial Gland		Adenocarcinoma Inflammation	Chronic Active, Marked
Note: INFLAMMATION TGLs = 1-10.1 [ Adenocarcinoma TGLS = 1-10.1 ]			
Salivary Glands	Duct, Submandibul GI Submandibul GI	Hyperplasia Inflammation	Minimal Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Testes	Bilateral, Interstit Cell Seminif Tub Interstit Cell Seminif Tub	Adenoma Atrophy Hyperplasia Mineralization	Marked Minimal Minimal
Note: ADENOMA TGLs = 2-6			
Urinary Bladder		Inflammation	Chronic Active, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 39

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862492

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Mammary Gland
Pancreas	Pituitary Gland	Prostate	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Coagulating Gland		Atrophy	Mild
Note: ATROPHY	TGLs = 6-6		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Mild
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Marked
Note: NEPHROPATHY	TGLs = 2-4		
Liver		Angiectasis	Minimal
		Basophilic Focus	
		Degeneration	Minimal
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose		Inflammation	Chronic Active, Minimal
Parathyroid Gland		Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 4-8		
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Duct, Submandibul GI	Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 39

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862492

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Mild
Note: ATROPHY	TGLs = 5-6		
Skin		Squamous Cell Papilloma	
Note: PAPILLOMA SQUA	TGLs = 8-13+13.1		
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 1-6		
Thymus		Angiectasis	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 40

TRT#: 1

SEX: Male

DAY ON TEST: 655

DOSE: 0 PPM MALE

DISP: Dead

HISTO: 862493

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Eye	Intestine Large - Rectum	Islets, Pancreatic
Lung	Parathyroid Gland	Seminal Vesicle	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	Multiple
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: PHEOCHROM BGN TGLs = 6-8			
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Adenocarcinoma	
	Cecum	Autolysis	Mild
	Colon	Autolysis	Minimal
Note: [ ADENOCARC ] TGLs = 4-7.2			
Intestine Small	Duodenum	Autolysis	Mild
	Ileum	Autolysis	Mild
	Jejunum	Autolysis	Moderate
Kidney		Nephropathy	Moderate
Liver		Angiectasis	Minimal
		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lymph Node	Mandibular	Hyperplasia	Plasma Cell, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 10-9			
Nose		Inflammation	Chronic Active, Minimal
Note: THE SUBMUCOSA THERE WAS A ACCUMULATION OF A PINK			
Note: IN ADDITION TO MINIMAL ACUTE INFLAMMATION IN GLANDS IN			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 40

TRT#: 1

SEX: Male

DAY ON TEST: 655

DOSE: 0 PPM MALE

DISP: Dead

HISTO: 862493

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: PROTEINACEOUS MATERIAL IN THE GLANDS.

Pancreas	Acinus	Atrophy	Minimal
		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 9-8		
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen		Leukemia Mononuclear	
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Mild
	Interstit Cell	Hyperplasia	Mild
	Seminif Tub	Mineralization	Minimal

[ Hyperplasia TGLS = 3-6 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 41

TRT#: 1

SEX: Male

DAY ON TEST: 494

DOSE: 0 PPM MALE

DISP: Dead

HISTO: 862495

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Nose	Parathyroid Gland	Salivary Glands
Skin			

**MISSING**

Lymph Node - Mesenteric	Mammary Gland
-------------------------	---------------

**AUTO PRECLUDES DIAG.**

Islets, Pancreatic	Pancreas
--------------------	----------

**INSUFFICIENT TISSUE**

Thymus

**OBSERVATIONS**

Adrenal Gland	Cortex	Autolysis	Marked
	Medulla	Autolysis	Marked
Bone Marrow	Sternal	Autolysis	Marked
Brain		Autolysis	Mild
Epididymis		Autolysis	Marked
Esophagus		Autolysis	Moderate
Heart		Autolysis	Mild
		Cardiomyopathy	Moderate
Intestine Large	Cecum	Autolysis	Marked
	Colon	Autolysis	Marked
	Rectum	Autolysis	Marked
Intestine Small	Duodenum	Autolysis	Marked
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Marked
Kidney		Autolysis	Marked
Liver		Autolysis	Mild
		Degeneration	Minimal
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Lung		Autolysis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 41

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 494

**DOSE:** 0 PPM MALE

**DISP:** Dead

**HISTO:** 862495

**ORGAN AND ACCOUNTABLE SITE STATUS**

		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Pituitary Gland	Pars Distalis	Autolysis	Moderate
Preputial Gland		Autolysis	Mild
Prostate		Autolysis	Mild
		Inflammation	Chronic Active, Mild
Seminal Vesicle		Autolysis	Mild
Spleen		Autolysis	Moderate
		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
		[ Autolysis TGLS = 1-3.1 ]	
		[ Leukemia Mononuclear TGLS = 1-3.1 ]	
Stomach	Forestomach	Autolysis	Marked
	Glandular	Autolysis	Marked
Testes		Autolysis	Moderate
Thyroid Gland		Autolysis	Marked
Trachea		Autolysis	Moderate
Urinary Bladder		Autolysis	Moderate

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 42

TRT#: 1

SEX: Male

DAY ON TEST: 505

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862498

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Epididymis	Esophagus	Eye
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Preputial Gland	Salivary Glands	Seminal Vesicle
Skin	Thyroid Gland	Trachea	Urinary Bladder

**OBSERVATIONS**

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 9-8			
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain	Cerebellum	Infarct	Mild
	Cerebrum	Infarct	Mild
	Pons	Infarct	Mild
		Leukemia Mononuclear	
Note: [ INFARCT ] TGLs = 11,12,13-5+5.1			
Note: [ LEUKEMIA MONUC ] TGLs = 11,12,13-5+5.1			
Heart		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Colon	Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 10-3			
Lung		Leukemia Mononuclear	
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 8-8.1			
Note: [ LEUKEMIA MONUC ] TGLs = 3-2			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 42

TRT#: 1

SEX: Male

DAY ON TEST: 505

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862498

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 2-9 ]

Mammary Gland

Hyperplasia

Mild

Mesentery

Fibrosis

Mild

Inflammation

Chronic Active, Mild

Leukemia Mononuclear

Necrosis

Liquifactive, Mild

Note: [ FIBROSIS ] TGLs = 4,5-7+14

Note: [ LEUKEMIA MONUC ] TGLs = 4,5-7+14

Note: [ INFLAMMATION ] TGLs = 4,5-7+14

Note: [ NECROSIS ] TGLs = 4,5-7+14

Nose

Inflammation

Chronic Active, Mild

Metaplasia

Squamous, Minimal

Note: SPECIES.

Note: IN THE LUMEN OF THE NOSE, PRESUMABLY ASPERGILLUS

Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED

Pancreas

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 8-8.1

Pituitary Gland

Pars Distalis

Adenoma

Leukemia Mononuclear

Prostate

Inflammation

Chronic Active, Marked

Spleen

Depletion Lymphoid

Marked

Fibrosis

Mild

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 6,7-3+3.1

Stomach

Glandular, Mucosa

Dilatation

Minimal

Forestomach

Hyperplasia

Squamous, Marked

Forestomach

Leukemia Mononuclear

Forestomach

Ulcer

Mild

Note: [ ULCER ] TGLs = 14-7.2

Note: [ HYPERPLASIA ] TGLs = 14-7.2

Testes

Interstit Cell

Hyperplasia

Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 42

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 505

**DOSE:** 0 PPM MALE

**DISP:** Moribund

**HISTO:** 862498

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thymus

Leukemia Mononuclear

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 43

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862496

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex

Bone

Bone Marrow

Brain

Epididymis

Esophagus

Intestine Large - Cecum

Intestine Large - Colon

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Islets, Pancreatic

Salivary Glands

Stomach - Forestomach

Thymus

Trachea

Urinary Bladder

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland

Medulla

Hyperplasia

Minimal

Coagulating Gland

Atrophy

Mild

Note: ATROPHY TGLs = 14-6

Heart

Cardiomyopathy

Minimal

Intestine Large

Rectum

Parasite Metazoan

Minimal

Kidney

Nephropathy

Moderate

Note: NEPHROPATHY TGLs = 5-4

Liver

Angiectasis

Minimal

Basophilic Focus

Bile Duct

Hyperplasia

Mild

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 7,8-3

Lung

Leukemia Mononuclear

Artery

Mineralization

Minimal

Note: LEUKEMIA MONUC TGLs = 9,10,11,12-1+2+2.1

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mammary Gland

Hyperplasia

Mild

Nose

Inflammation

Chronic Active, Mild

Pancreas

Acinus

Atrophy

Minimal

Inflammation

Chronic Active, Minimal

Pituitary Gland

Pars Distalis

Hyperplasia

Minimal

Preputial Gland

Inflammation

Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 43

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862496

**ORGAN AND ACCOUNTABLE SITE STATUS**

Prostate		Dilatation Inflammation	Mild Chronic Active, Minimal
Note: THERE WERE NUMEROUS DILATED DUCTS/GLANDS FILLED WITH Note: MUCINOUS MATERIAL IN ONE LOBE OF THE PROSTATE.			
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY TGLs = 15-6			
Skin		Squamous Cell Papilloma	Multiple
Note: THERE WAS EXTENSIVE ACUTE AND CHRONIC INFLAMMATION IN Note: THE TISSUES SURROUNDING THE SQUAMOUS PAPILOMAS. [ Squamous Cell Papilloma TGLS = 1,2-13+13.1 ]			
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-3.1			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ADENOMA TGLs = 3-6 Note: ATROPHY TGLs = 13-6			
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 44

TRT#: 1

SEX: Male

DAY ON TEST: 521

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862497

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Seminal Vesicle	Skin
Stomach - Forestomach	Testes	Thymus	Trachea
Urinary Bladder			

**OBSERVATIONS**

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Mild
Epididymis		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-8		
Preputial Gland		Inflammation	Chronic Active, Moderate
Prostate		Inflammation	Chronic Active, Marked
Spleen		Fibrosis	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 45

TRT#: 1

SEX: Male

DAY ON TEST: 459

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853091

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Liver	Nose
Parathyroid Gland	Preputial Gland	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Mammary Gland

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Pancreas		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 1-8		
Prostate		Inflammation	Chronic, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal
Testes	Interstit Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 46

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862499

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Pancreas	Parathyroid Gland
Pituitary Gland	Prostate	Skin	Spleen
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Esophagus			
Note: HOWEVER, THERE WERE NO HISTOLOGIC ABNORMALITIES.			
Note: THE ESOPHAGUS WAS FILLED WITH BEDDING AT NECROPSY			
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Islets, Pancreatic		Hyperplasia	Minimal
Kidney		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 5-4			
Liver	Bile Duct	Hyperplasia	Minimal
Lung		Inflammation	Chronic Active, Mild
Note: DESIGNATED CHRONIC ACTIVE INFLAMMATION.			
Note: INFLAMMATION TGLs = 6-1+2			
Note: THIS COMBINATION OF INFLAMMATORY INFILTRATES WAS			
Note: MULTINUCLEATED HISTIOCYTES WERE NOTED IN THE LUNG.			
Note: INFLAMMATION CHARACTERIZED BY THE ACCUMULATION OF			
Note: INFLUX OF NEUTROPHILS AND CHRONIC GRANULOMATOUS			
Note: FOCAL AREA OF ACUTE INFLAMMATION CHARACTERIZED BY THE			
Lymph Node	Mandibular	Hyperplasia	Plasma Cell, Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 46	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 732
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 862499

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLS = 2-9 ]

Mammary Gland		Hyperplasia	Minimal
Nose	Lumen	Foreign Body Inflammation	Mild Chronic Active, Marked

Note: HYPHAE AND PIECES OF PLANT MATERIAL SURROUNDED BY

Note: ACUTE INFLAMMATORY CELLS.

Note: VISIBLE WITHIN THE LUMEN OF THE NOSE WERE FUNGAL

Preputial Gland		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell Seminif Tub	Adenoma Atrophy	Marked

Note: ADENOMA TGLs = 3-6

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 47

TRT#: 1

SEX: Male

DAY ON TEST: 531

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862501

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Prostate	Salivary Glands	Seminal Vesicle
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Mammary Gland	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Colon	Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Note: LEUKEMIA MONUC	TGLs = 10-4		
Note: NEPHROPATHY	TGLs = 10-4		
Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9,11-3 ]			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-1+2		
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-8		
Note: LEUKEMIA MONUC	TGLs = 4-9		
[ Leukemia Mononuclear TGLS = 7-2 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 47

TRT#: 1

SEX: Male

DAY ON TEST: 531

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862501

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy Inflammation Leukemia Mononuclear	Minimal Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Skin	Subcut Tiss	Leukemia Mononuclear	
Spleen		Depletion Lymphoid Leukemia Mononuclear	Marked
[ Leukemia Mononuclear TGLS = 5-3 ]			
Stomach	Glandular, Mucosa Forestomach Glandular	Dilatation Leukemia Mononuclear Leukemia Mononuclear	Minimal
Testes	Bilateral, Interstit Cell  Interstit Cell	Adenoma Hemorrhage Hyperplasia	Minimal Minimal

Note: AN ARTEFACT RELATED TO HANDLING AT NECROPSY.

Note: MINOR HEMORRHAGE NOTED IN THE TESTES IS PROBABLY

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 48

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862500

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Mammary Gland
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	Multiple
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: PHEOCHROM BGN TGLs = 5-8			
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Mild
Kidney		Cyst	Minimal
	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 7-4			
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-3			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 10-2			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
	Acinus	Hyperplasia	Moderate
		Vacuolization Cytoplasmic	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 48

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862500

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
Note: CYST TGLs = 8-8.1			
Preputial Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
[ Adenoma TGLS = 2-10 ]			
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: ATROPHY TGLs = 9-6			
Note: ADENOMA TGLs = 3-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 49

TRT#: 1

SEX: Male

DAY ON TEST: 459

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853092

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Parathyroid Gland	Prostate	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Medulla	Inflammation	Chronic Active, Minimal

Note: cytes were noted in sinusoids in the medulla.

Note: Small aggregates of mononuclear cells, mainly lympho-

Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Mild
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal

Note: Rare single cell necrosis was noted in the liver.

Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Testes	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 50

TRT#: 1

SEX: Male

DAY ON TEST: 459

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853093

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Parathyroid Gland
Salivary Glands	Seminal Vesicle	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Inflammation	Chronic Active, Minimal
Lung	Artery	Infiltration Cellular	Histiocyte, Minimal
		Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
	Pancreatic	Pigmentation	Minimal
Note: PIGMENT	TGLs = 1-9		
Mammary Gland		Hyperplasia	Minimal
Pancreas		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic, Minimal
Prostate		Inflammation	Chronic Active, Mild
Testes	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 51

TRT#: 1

SEX: Male

DAY ON TEST: 687

DOSE: 0 PPM MALE

DISP: Dead

HISTO: 862504

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Eye	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Salivary Glands	Skin
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

**OBSERVATIONS**

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Minimal
Kidney	Transit Epithe	Hyperplasia	Mild
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 4,5-4			
Liver		Degeneration	Minimal
		Eosinophilic Focus	
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Chondroma	
		Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Mild
		Squamous Cell Carcinoma	

Note: CHONDROMA TGLs = 10-12

Note: THE OCCURRENCE OF A SQUAMOUS CELL CARCINOMA AND A  
Note: OCCURRENCE.

Note: CHONDROMA IN THE NOSE OF A CONTROL RAT IS AN UNUSUAL

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 51

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 687

**DOSE:** 0 PPM MALE

**DISP:** Dead

**HISTO:** 862504

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy	Minimal
		Cytoplasmic Alteration	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 11-8		
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Moderate
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Stomach	Forestomach	Acanthosis	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Mild
Note: ADENOMA	TGLs = 2-6		
[ Atrophy TGLS = 2-6 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 52

TRT#: 1

SEX: Male

DAY ON TEST: 563

DOSE: 0 PPM MALE

DISP: Dead

HISTO: 862506

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Eye
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Seminal Vesicle	Stomach - Forestomach
Trachea	Urinary Bladder		

MISSING

Mammary Gland	Thymus
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OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Intestine Small	Ileum	Autolysis	Marked
Kidney		Nephropathy	Moderate
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
Note: [ HDN ] TGLs = 7-3			
Lung		Sarcoma	Metastatic (Skin)
Note: [ SARCOMA ] TGLs = 8,10,11-1+1.1+1.3+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose		Inflammation	Chronic Active, Marked
Note: [ INFLAMMATION ] TGLs = 1-12			
Pancreas	Acinus	Hyperplasia	Moderate
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Skin	Subcut Tiss	Sarcoma	
[ Sarcoma TGLS = 3-14+14.1 ]			
Spleen		Fibrosis	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 52	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Dead	<b>DAY ON TEST:</b> 563 <b>HISTO:</b> 862506
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
	Seminif Tub	Atrophy	Mild
	Seminif Tub	Mineralization	Minimal
Note: [ ADENOMA ] TGLs = 4-6 [ Atrophy TGLS = 5-6 ]			
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 53

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862502

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex  
Brain  
Intestine Large - Rectum  
Islets, Pancreatic

Adrenal Gland - Medulla  
Epididymis  
Intestine Small - Duodenum  
Thymus

Bone  
Esophagus  
Intestine Small - Ileum  
Trachea

Bone Marrow  
Intestine Large - Colon  
Intestine Small - Jejunum  
Urinary Bladder

MISSING

Parathyroid Gland

OBSERVATIONS

Heart  
Intestine Large  
Kidney  
Note: [ NEPHROPATHY ] TGLs = 3-4  
Liver

Cecum  
Bile Duct

Cardiomyopathy  
Parasite Metazoan  
Nephropathy  
Hyperplasia  
Inflammation  
Leukemia Mononuclear  
Inflammation

Mild  
Minimal  
Mild  
Minimal  
Chronic Active, Minimal  
Chronic Active, Mild

Lung  
Note: [ INFLAMMATION ] TGLs = 6-1.1  
Lymph Node  
Mammary Gland  
Nose  
Pancreas

Mesenteric  
Acinus

Infiltration Cellular  
Hyperplasia  
Inflammation  
Atrophy  
Inflammation

Histiocyte, Minimal  
Minimal  
Chronic Active, Minimal  
Minimal  
Chronic Active, Minimal

Pituitary Gland  
Preputial Gland  
Prostate  
Salivary Glands

Pars Distalis  
Pars Distalis

Adenoma  
Hyperplasia  
Inflammation  
Inflammation

Mild  
Chronic Active, Minimal  
Chronic Active, Minimal

Duct, Submandibul GI  
Duct, Submandibul GI  
Submandibul GI  
Duct, Submandibul GI

Hyperplasia  
Inflammation  
Inflammation  
Metaplasia  
Atrophy

Minimal  
Chronic Active, Minimal  
Chronic Active, Minimal  
Squamous, Minimal  
Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 53

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862502

**ORGAN AND ACCOUNTABLE SITE STATUS**

Skin	Subcut Tiss	Fibroma	
Note: [ FIBROMA ] TGLs = 1-13			
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Moderate
Note: [ HYPERPLASIA ] TGLs = 7-7.2			
Note: [ HYPERKERATOSIS ] TGLs = 7-7.2			
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: [ ADENOMA ] TGLs = 2-6			
Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Minimal
Note: [ CARCINOMA ] TGLs = 5-8.1			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 54

TRT#: 1

SEX: Male

DAY ON TEST: 695

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862503

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	Multiple
Bone Marrow	Sternal	Hypocellularity	Mild
Coagulating Gland		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-6			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Mild
	Rectum	Parasite Metazoan	Minimal
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney	Transit Epithe	Hyperplasia	Mild
		Leukemia Mononuclear	
Liver		Nephropathy	Marked
		Degeneration	Minimal
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8-3			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
[ Leukemia Mononuclear TGLs = 3-1+2 ]			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Galactocele	Marked
		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 54

TRT#: 1

SEX: Male

DAY ON TEST: 695

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862503

ORGAN AND ACCOUNTABLE SITE STATUS

[ Galactocoele TGLS = 1-14 ]

[ Hyperplasia TGLS = 1-14 ]

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy Leukemia Mononuclear Vacuolization Cytoplasmic	Minimal Mild
Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Marked
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-6		
Skin		Squamous Cell Papilloma	
Note: PAPILLOMA SQUA	TGLs = 4-13		
Spleen		Depletion Lymphoid Leukemia Mononuclear	Mild
Note: LEUKEMIA MONUC	TGLs = 2,9-3.1		
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Interstit Cell	Hyperplasia	Minimal
Urinary Bladder		Calculus Micro Observation Only Leukemia Mononuclear	Mild
Note: CALCUS MIC OBS	TGLs = 7-9		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 55

TRT#: 1

SEX: Male

DAY ON TEST: 644

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862505

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Eye	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Adenoma	
	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 5-4			
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-3 ]			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 7-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Bronchial	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-10			
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Mild
		Necrosis	Liquifactive, Moderate
[ Fibrosis TGLS = 2-3 ]			
[ Necrosis TGLS = 2-3 ]			
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 55

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 644

**DOSE:** 0 PPM MALE

**DISP:** Moribund

**HISTO:** 862505

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Adenoma	
	Pars Intermed	Angiectasis	Moderate
Note: ADENOMA	TGLs = 8-8		
Preputial Gland		Inflammation	Chronic Active, Marked
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 3,4-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Hyperplasia	Minimal

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 56

TRT#: 1

SEX: Male

DAY ON TEST: 696

DOSE: 0 PPM MALE

DISP: Moribund

HISTO: 862510

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Eye	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex Medulla	Leukemia Mononuclear Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 6-8			
Heart		Cardiomyopathy Leukemia Mononuclear	Mild
Kidney	Transit Epithe Prox Con Tub	Hyperplasia Inflammation Leukemia Mononuclear Nephropathy	Minimal Acute, Minimal  Marked
Note: [ NEPHROPATHY ] TGLs = 7,8-4			
Liver	Bile Duct	Hyperplasia Leukemia Mononuclear	Minimal
Note: [ LEUKEMIA MONUC ] TGLs = 9-3			
Lung		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 10-1+2			
Lymph Node	Mesenteric Mesenteric	Infiltration Cellular Leukemia Mononuclear	Histiocyte, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia Leukemia Mononuclear	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 56

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 696

**DOSE:** 0 PPM MALE

**DISP:** Moribund

**HISTO:** 862510

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Seminal Vesicle

Atrophy

Mild

Spleen

Depletion Lymphoid

Moderate

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 5-3

Stomach

Glandular, Mucosa

Dilatation

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Interstit Cell

Hyperplasia

Minimal

Seminif Tub

Mineralization

Minimal

Note: [ ADENOMA ] TGLs = 2,3,4-6

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 57

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862507

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Mammary Gland	Parathyroid Gland	Prostate
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
Coagulating Gland		Atrophy	Moderate
Note: ATROPHY TGLs = 7-6			
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Mild
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Mild
Note: NEPHROPATHY TGLs = 3-4			
Liver		Degeneration	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: HDN TGLs = 4-3			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 9-9			
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Cytoplasmic Alteration	Minimal
Pituitary Gland	Pars Distalis	Cyst	Moderate
	Pars Distalis	Hyperplasia	Mild
Note: [ CYST ] TGLs = 6-8			
Preputial Gland		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 57

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862507

**ORGAN AND ACCOUNTABLE SITE STATUS**

Salivary Glands	Sublingual GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Note: ATROPHY TGLs = 8-6			
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA TGLs = 2-6			
[ Atrophy TGLS = 1-6 ]			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 58

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862509

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Jejunum	Lung	Pancreas	Parathyroid Gland
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Benign	Multiple
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Intestine Small	Ileum	Hyperplasia	Lymphoid, Minimal
Islets, Pancreatic		Adenoma	
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Liver	Bile Duct	Hyperplasia	Minimal
		Mixed Cell Focus	
Lung			
Note: HANDLING AT NECROPSY.			
Note: MINOR HEMORRHAGES IN THE LUNG ARE PROBABLY RELATED TO			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Galactocele	Moderate
		Hyperplasia	Marked
			[ Galactocele TGLS = 2,3,4-10+10.1+10.2 ]
			[ Hyperplasia TGLS = 2,3,4-10+10.1+10.2 ]
Nose	Nasolacrim Dct	Inflammation	Chronic Active, Moderate
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 7-8		

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 58	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 0 PPM MALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 862509

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Marked
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Mild
Spleen		Fibrosis	Mild
Note: FIBROSIS	TGLs = 8-3		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 5,6-6		
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 59

TRT#: 1

SEX: Male

DAY ON TEST: 459

DOSE: 0 PPM MALE

DISP: Interval Sacrifice

HISTO: 853094

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Preputial Gland	Prostate
Salivary Glands	Seminal Vesicle	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Pancreatic	Hemorrhage	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
	Pancreatic	Pigmentation	Minimal
Note: PIGMENT	TGLs = 1-9		
Note: HEMORRHAGE	TGLs = 1-9		
Mammary Gland		Hyperplasia	Minimal
Pancreas		Atrophy	Mild
		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Testes	Interstit Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 60

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: 0 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862508

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 4-4			
Liver	Bile Duct	Hyperplasia	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mandibular, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 1-9 ]			
Mammary Gland		Hyperplasia	Moderate
Nose	Lumen	Foreign Body	Minimal
		Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Minimal
Note: AND PLANT MATERIAL SURROUNDED BY NEUTROPHILS.			
Note: VISIBLE WITHIN THE LUMEN OF THE NOSE WERE FUNGAL HYPHAE			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-8			
Preputial Gland		Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 2-10			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 60

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 0 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862508

**ORGAN AND ACCOUNTABLE SITE STATUS**

Prostate		Inflammation	Chronic Active, Moderate
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal
Note: ATROPHY	TGLs = 7-6		
Note: ADENOMA	TGLs = 3-6		
Thyroid Gland	C Cell	Hyperplasia	Moderate
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 61

TRT#: 2

SEX: Male

DAY ON TEST: 715

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870195

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Prostate	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Pheochromocytoma Benign	Multiple
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Mild
		Nephropathy	Marked
Note: NEPHROPATHY	TGLs = 6,7-4		
Liver	Bile Duct	Hyperplasia	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mandibular, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 3-9 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Mild
Parathyroid Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY	TGLs = 9-6		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

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<b>ANIMAL ID:</b> 61	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 715
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870195

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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA Thyroid Gland TGLs = 4,5-6	C Cell	Adenoma	
Note: ADENOMA TGLs = 8-8			

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 62

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870192

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Pancreas	Pituitary Gland	Skin	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Parathyroid Gland

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Moderate
Liver	Bile Duct	Basophilic Focus	
		Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL LEUKEMIA.			
Note: LEUKEMIA MONUC TGLs = 4-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mandibular	Hyperplasia	Plasma Cell, Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 5-9			
Note: HYPERPLASIA TGLs = 5-9			
Mammary Gland		Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Moderate
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 62	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 731
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 870192

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes	Bilateral, Interstit Cell Seminif Tub Interstit Cell	Adenoma Atrophy Hyperplasia	Marked Minimal
Note: ADENOMA	TGLs = 3-6		
Thymus		Thymoma Benign	
Note: THYMOMA BGN	TGLs = 8-2		
Note: NODE WAS ACTUALLY THE THYMUS WITH PROLIFERATION OF			
Note: THE EPITHELIAL COMPONENT.			
Note: WHAT THE PROSECTOR THOUGHT WAS A MEDIASTINAL LYMPH			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 63

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870191

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Salivary Glands	Spleen	Stomach - Forestomach	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Small	Ileum	Hyperplasia	Lymphoid, Mild
Kidney		Nephropathy	Marked
Note: NEPHROPATHY	TGLs = 7-4		
Liver		Inflammation	Chronic Active, Minimal
Lung	Mediastinum	Alveolar/Bronchiolar Carcinoma	Metastatic (Lung)
		Alveolar/Bronchiolar Carcinoma	
		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: ALV BRON CARC	TGLs = 4-1+1.1		
Note: ALV BRON CARC	TGLs = 5-14		
Lymph Node	Mandibular	Hyperplasia	Plasma Cell, Mild
	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA	TGLs = 11-2		
Note: HYPERPLASIA	TGLs = 13-9		
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 63

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870191

**ORGAN AND ACCOUNTABLE SITE STATUS**

Parathyroid Gland		Inflammation	Chronic Active, Minimal
Note: HYPERPLASIA	TGLs = 6-8	Hyperplasia	Mild
Pituitary Gland			
	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY	TGLs = 8-6		
Skin			
Note: LIPOMA	TGLs = 1-13	Lipoma	
Stomach		Dilatation	Mild
Testes		Adenoma	
	Glandular, Mucosa	Atrophy	Marked
	Bilateral, Interstit Cell	Mineralization	Minimal
	Seminif Tub		
	Seminif Tub		
Note: ADENOMA	TGLs = 2-6		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 64

TRT#: 2

SEX: Male

DAY ON TEST: 723

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870194

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Pituitary Gland	Prostate
Skin	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland Note: PHEOCHROM BGN TGLs = 4-8	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Liver		Clear Cell Focus	Minimal
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI Duct, Submandibul GI	Inflammation	Chronic Active, Minimal
		Metaplasia	Squamous, Mild
Seminal Vesicle Note: ATROPHY TGLs = 5-6		Atrophy	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ADENOMA TGLs = 2-6			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 64

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 723

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870194

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 65

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870193

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Liver
Lung	Parathyroid Gland	Pituitary Gland	Prostate
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland Note: PHEOCHROM BGN TGLs = 4-8.1	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose  Note: IN THE LUMEN OF THE NOSE. Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
		Polyarteritis	Moderate
Preputial Gland  [ Adenoma TGLS = 1-10 ]		Adenoma	
		Inflammation	Chronic Active, Minimal
Seminal Vesicle Note: ATROPHY TGLs = 5-6		Atrophy	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 65

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870193

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Seminif Tub

Atrophy

Marked

Note: ADENOMA TGLs = 2,3-6

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 66

TRT#: 2

SEX: Male

DAY ON TEST: 459

DOSE: 2,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853136

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Intestine Large - Cecum  
Intestine Small - Jejunum

Intestine Large - Rectum  
Stomach - Forestomach

Intestine Small - Duodenum  
Stomach - Glandular

Intestine Small - Ileum

**OBSERVATIONS**

Intestine Large  
Liver

Colon  
Bile Duct

Parasite Metazoan  
Hyperplasia

Mild  
Minimal

Lung  
Lymph Node

Mandibular  
Mesenteric  
Mesenteric

Inflammation  
Infiltration Cellular  
Hemorrhage  
Infiltration Cellular  
Pigmentation

Chronic Active, Minimal  
Histiocyte, Minimal  
Mild  
Histiocyte, Minimal  
Minimal

Note: HEMORRHAGE TGLs = 7-9  
Preputial Gland

Adenocarcinoma

Note: [ ADENOCARC ] TGLs = 1-13  
Testes

Bilateral, Interstit Cell  
Interstit Cell

Adenoma  
Hyperplasia

Minimal

Note: ADENOMA TGLs = 8-6

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 67	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 459
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853135

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Stomach - Forestomach	Stomach - Glandular	Thymus

---

**OBSERVATIONS**

Intestine Large	Cecum	Parasite Metazoan	Mild
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Preputial Gland		Inflammation	Chronic, Minimal
Note: INFLAMMATION TGLs = 3-10			
Skin		Inflammation	Necrotizing, Acute, Marked
Note: INFLAMMATION TGLs = 1-13			

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 68

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 456

**DOSE:** 2,000 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853137

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Intestine Large - Colon  
Stomach - Forestomach

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Jejunum

**OBSERVATIONS**

Intestine Large  
Intestine Small  
Lymph Node

Cecum  
Epithelium, Ileum  
Mesenteric  
Mesenteric  
Mesenteric

Parasite Metazoan  
Pigmentation  
Hyperplasia  
Infiltration Cellular  
Pigmentation

Minimal  
Minimal  
Lymphoid, Mild  
Histiocyte, Minimal  
Minimal

Note: HYPERPLASIA TGLs = 3-8

Stomach

Epithelium, Glandular

Pigmentation

Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 69

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870196

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Prostate	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN TGLs = 11-8			
Heart		Cardiomyopathy	Mild
Kidney		Cyst	Mild
	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 4-4			
Note: CYST TGLs = 5-4.1			
Liver	Bile Duct	Hyperplasia	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Moderate
	Mucosa	Ulcer	Moderate
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED			
Note: IN THE LUMEN OF THE NOSE.			
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 7-8			
Preputial Gland		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 69	<b>TRT#:</b> 2 <b>DOSE:</b> 2,000 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 731 <b>HISTO:</b> 870196
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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Salivary Glands	Submandibul GI Duct, Submandibul GI	Inflammation Metaplasia Atrophy	Chronic Active, Minimal Squamous, Mild Moderate
Seminal Vesicle Note: ATROPHY      TGLs = 9-6			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ATROPHY      TGLs = 10-6 Note: ADENOMA      TGLs = 3-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 70

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870197

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Prostate	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3+3.1		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Moderate
		Metaplasia	Squamous, Mild
Note: IN THE LUMEN OF THE NOSE.			
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED			
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Mild
		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland	Duct	Dilatation	Mild
Note: DILATATION	TGLs = 1-10		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 70

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870197

**ORGAN AND ACCOUNTABLE SITE STATUS**

Seminal Vesicle

Atrophy

Mild

Spleen

Fibrosis

Moderate

Leukemia Mononuclear

Note: FIBROSIS TGLs = 3-3.2

Note: LEUKEMIA MONUC TGLs = 3-3.2

Stomach

Glandular, Mucosa

Dilatation

Mild

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Interstit Cell

Hyperplasia

Minimal

Seminif Tub

Mineralization

Minimal

Note: ADENOMA TGLs = 2-6

Thyroid Gland

Bilateral, C Cell

Adenoma

C Cell

Hyperplasia

Mild

Note: ADENOMA TGLs = 4-8.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 71

TRT#: 2

SEX: Male

DAY ON TEST: 549

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870202

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Eye	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Pituitary Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
Liver		Nephropathy	Minimal
		Degeneration	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-3			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 10-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-9.1			
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Vacuolization Cytoplasmic	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Marked
Spleen		Depletion Lymphoid	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 71	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 549
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870202

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: LEUKEMIA MONUC	TGLs = 6-3.1+3.2		Leukemia Mononuclear	
Testes		Bilateral, Interstit Cell	Adenoma	
		Seminif Tub	Atrophy	Moderate
		Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 4-6			
Thyroid Gland		C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH		-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 72

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870199

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow	Brain	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Parathyroid Gland	Prostate
Salivary Glands	Seminal Vesicle	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Malignant	
	Cortex	Vacuolization Cytoplasmic	Mild
Note: [ PHEOCHROM MAL ] TGLs = 9-8.1.1			
Bone	Cranium	Hyperostosis	Moderate
Note: HYPEROSTOSIS TGLs = 7-13			
Epididymis		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Marked
Note: NEPHROPATHY TGLs = 5-4			
Liver		Degeneration	Minimal
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 10-8			
Mammary Gland		Galactocele	Mild
		Hyperplasia	Moderate
[ Galactocele TGLS = 2,3-15 ]			
[ Hyperplasia TGLS = 2,3-15 ]			
Pancreas		Vacuolization Cytoplasmic	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 72

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870199

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: ADENOMA TGLs = 8-8.1.1	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic Active, Minimal
Skin	Foot	Acanthosis	Minimal
	Foot	Hyperkeratosis	Minimal
Note: ACANTHOSIS TGLs = 11-14 Note: HYPERKERATOSIS TGLs = 11-14			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Seminif Tub	Atrophy	Moderate
		Polyarteritis	Marked
[ Atrophy TGLS = 4-6 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 73

TRT#: 2

SEX: Male

DAY ON TEST: 582

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870201

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Pancreas	Prostate
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Thymus	Urinary Bladder		

MISSING

Esophagus	Mammary Gland	Parathyroid Gland
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OBSERVATIONS

Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Clear Cell Focus	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
Note: HDN	TGLs = 4-3.1		
Lung		Adenocarcinoma	Metastatic (Thyroid Gland)
		Inflammation	Chronic Active, Marked
Note: INFLAMMATION	TGLs = 6,8-1+1.1+2+2.1		
Note: ADENOCARC	TGLs = 8-1.1		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 3-6		
Thyroid Gland	Follicular Cel	Adenocarcinoma	
Note: ADENOCARC	TGLs = 5-8.1+8.2		
Trachea		Adenocarcinoma	Metastatic (Thyroid Gland)

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 73

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 582

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870201

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 74

TRT#: 2

SEX: Male

DAY ON TEST: 690

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870200

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Urinary Bladder

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Mild
Note: PHEOCHROM BGN	TGLs = 7-8.1		
Bone Marrow	Sternal	Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ]	TGLs = 8-3		
Lung		Infiltration Cellular	Histiocyte, Mild
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Leukemia Mononuclear	
Nose		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Minimal
	Pars Distalis	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 74	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 690
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870200

ORGAN AND ACCOUNTABLE SITE STATUS

Note: ADENOMA Preputial Gland	TGLs = 12-8.1	Pars Distalis	Leukemia Mononuclear	
Prostate			Inflammation	Chronic Active, Minimal
Salivary Glands		Parotid GI	Leukemia Mononuclear	
Seminal Vesicle		Submandibul GI	Leukemia Mononuclear	Moderate
Skin		Subcut Tiss	Leukemia Mononuclear	
Spleen			Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ]	TGLs = 13-3.1			
Stomach		Glandular, Mucosa	Dilatation	Minimal
		Forestomach	Hyperkeratosis	Minimal
		Forestomach	Hyperplasia	Squamous, Mild
		Forestomach	Leukemia Mononuclear	
		Forestomach	Ulcer	Moderate
Note: ULCER	TGLs = 14-7			
Testes		Bilateral, Interstit Cell	Adenoma	
		Seminif Tub	Atrophy	Marked
		Interstit Cell	Hyperplasia	Minimal
		Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 4,5-6			
[ Atrophy TGLS = 6-6 ]				
Thymus			Leukemia Mononuclear	
Thyroid Gland			Leukemia Mononuclear	
Trachea			Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH -

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 75

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870198

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Salivary Glands	Seminal Vesicle	Skin
Thymus	Trachea	Urinary Bladder	

**OBSERVATIONS**

Adrenal Gland	Medulla	Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Marked
[ Nephropathy TGLS = 3-4 ]			
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: INFILTRAT CELL			TGLs = 5-1
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Parathyroid Gland		Hyperplasia	Moderate
Note: HYPERPLASIA			TGLs = 7-8
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 2-3.1 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 75	<b>TRT#:</b> 2 <b>DOSE:</b> 2,000 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 731 <b>HISTO:</b> 870198
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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Marked
	Forestomach	Ulcer	Marked
Note: ULCER	TGLs = 6-7.1		
Note: HYPERKERATOSIS	TGLs = 6-7-7.1		
Note: HYPERPLASIA	TGLs = 6-7+7.1		
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	Follicular Cel	Adenoma	

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 76

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870204

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 3-4			
Liver		Clear Cell Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Mild
Note: CLEAR CL FOCUS TGLs = 4-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Pancreatic	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 7-9.1			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
		Polyarteritis	Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Mild
Note: ADENOMA TGLs = 6-8			
Preputial Gland		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 76

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870204

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Prostate		Inflammation	Chronic Active, Marked
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
Seminal Vesicle		Atrophy	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal

Note: ADENOMA TGLs = 2-6

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 77

TRT#: 2

SEX: Male

DAY ON TEST: 718

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870205

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Parathyroid Gland	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Mild
Intestine Small	Ileum	Hyperplasia	Lymphoid, Mild
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: PIGMENT TGLs = 6-3.1			
Note: INFLAMMATION TGLs = 6-3.1			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mandibular, Sinus	Ectasia	Mild
	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 13-9			
Note: ECTASIA TGLs = 13-9			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Fibrosis	Mild
	Duct, Submandibul GI	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 77	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 718
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870205

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Seminal Vesicle	Submandibul GI	Inflammation	Chronic Active, Mild
Spleen		Atrophy	Moderate
Stomach	Glandular, Mucosa	Leukemia Mononuclear	
Testes	Bilateral, Interstit Cell	Dilatation	Minimal
	Seminif Tub	Adenoma	Marked
	Interstit Cell	Atrophy	Minimal
		Hyperplasia	
Note: ADENOMA TGLs = 3,4-6			
Note: ATROPHY TGLs = 5-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal
		Pigmentation	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 78

TRT#: 2

SEX: Male

DAY ON TEST: 696

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870207

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Nose	Parathyroid Gland	Prostate	Salivary Glands
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Brain		Gliosis	Minimal
Note: THE RECUTS OF THE BRAIN WERE UNREMARKABLE AND REVEALED			
Note: BE AN EARLY GLIOMA.			
Note: HAVE INCREASED NUMBERS OF GLIAL CELLS AND COULD			
Note: NEITHER GLIOSIS NOR A GLIOMA.			
Note: THERE WAS AN AREA IN THE CEREBRUM WHICH APPEARED TO			
Heart		Cardiomyopathy	Moderate
Note: CARDIOMYOPATHY TGLs = 15-2			
Islets, Pancreatic		Adenoma	
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Mild
Note: NEPHROPATHY TGLs = 11-4			
Liver	Bile Duct	Degeneration	Minimal
		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLs = 16-3 ]			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 13,14-1+2			
Lymph Node	Mesenteric, Sinus	Ectasia	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 78

TRT#: 2

SEX: Male

DAY ON TEST: 696

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870207

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: LEUKEMIA MONUC TGLs = 12-2	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Minimal
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland	Duct	Dilatation	Marked
		Inflammation	Chronic Active, Minimal
Note: DILATATION TGLs = 19-10			
Seminal Vesicle		Atrophy	Moderate
[ Atrophy TGLS = 8-6 ]			
Skin	Subcut Tiss	Sarcoma	
Note: AS A MYXOSARCOMA.			
Note: THE SUBCUTANEOUS TUMOR COULD POSSIBLY BE CLASSIFIED			
[ Sarcoma TGLS = 1-13 ]			
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-3 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Glandular	Necrosis	Coagulative, Mild
Note: NECROSIS TGLs = 9-7			
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
[ Mineralization TGLS = 3-6 ]			
Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 79

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870203

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 4-4		
Liver		Angiectasis	Minimal
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Cytoplasmic Alteration	Minimal
Pituitary Gland	Pars Nervosa	Craniopharyngioma	
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY	TGLs = 3-6		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 2-6		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 79

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870203

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thyroid Gland

Follicular Cel

Cyst

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 80

TRT#: 2

SEX: Male

DAY ON TEST: 612

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870206

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Nose	Parathyroid Gland
Pituitary Gland	Stomach - Forestomach	Thymus	Trachea

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Hematopoietic Cell Proliferation	Minimal
Epididymis		Mesothelioma Malignant	
Note: MESOTHELIO MAL	TGLs = 9-6		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Intestine Small	Ileum	Hyperplasia	Lymphoid, Mild
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Mesentery		Mesothelioma Malignant	
Note: MESOTHELIO MAL	TGLs = 4,5-9.1+14+15+16		
Pancreas		Mesothelioma Malignant	
Note: MESOTHELIO MAL	TGLs = 10-7+15		
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
		Mesothelioma Malignant	
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Seminal Vesicle		Mesothelioma Malignant	
Skin		Acanthosis	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 80

TRT#: 2

SEX: Male

DAY ON TEST: 612

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870206

**ORGAN AND ACCOUNTABLE SITE STATUS**

		Hyperkeratosis	Marked
		Hyperplasia	Basal Cell, Mild
Note: HYPERPLASIA	TGLs = 2-13		
Note: HYPERKERATOSIS	TGLs = 2-13		
Note: ACANTHOSIS	TGLs = 2-13		
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
		Mesothelioma Malignant	
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 8-6		
Note: MESOTHELIO MAL	TGLs = 6-6		
[ Mesothelioma Malignant	TGLS = 7-6 ]		
Thyroid Gland	C Cell	Hyperplasia	Marked
Urinary Bladder		Mesothelioma Malignant	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 81

TRT#: 2

SEX: Male

DAY ON TEST: 718

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870208

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Brain	Epididymis
Esophagus	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN TGLs = 9-8			
Bone Marrow	Sternal	Myelofibrosis	Minimal
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Mild
Intestine Small	Ileum	Hyperplasia	Lymphoid, Mild
Kidney	Transit Epithe	Hyperplasia	Mild
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 5-4			
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-2			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Moderate
		Metaplasia	Squamous, Mild
Note: THE LUMEN OF THE NOSE.			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

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<b>ANIMAL ID:</b> 81	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 718
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870208

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED IN

Pancreas	Acinus	Atrophy Leukemia Mononuclear	Mild
Pituitary Gland	Pars Distalis Pars Intermed	Adenoma Angiectasis	Mild
Note: ADENOMA TGLs = 8-8			
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Marked
Spleen		Depletion Lymphoid Leukemia Mononuclear	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell Seminif Tub Interstit Cell	Adenoma Atrophy Hyperplasia	Marked Minimal
[ Atrophy TGLS = 2,3-6 ]			
Thymus		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 82

TRT#: 2

SEX: Male

DAY ON TEST: 648

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870210

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Eye
Intestine Large - Rectum	Intestine Small - Duodenum	Islets, Pancreatic	Skin
Stomach - Forestomach	Trachea		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Colon	Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
	Jejunum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7,13-3		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 10,12-1+2		
Lymph Node	Bronchial	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-2.2		
Note: LEUKEMIA MONUC	TGLs = 6-8.1+8.2		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 82	TRT#: 2	SEX: Male	DAY ON TEST: 648
DOSE: 2,000 PPM MALE		DISP: Moribund	HISTO: 870210
ORGAN AND ACCOUNTABLE SITE STATUS			
Pancreas	Acinus	Atrophy	Minimal
Parathyroid Gland		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 11-8	Leukemia Mononuclear	
Preputial Gland		Adenoma	
	Duct	Dilatation	Moderate
		Inflammation	Chronic Active, Moderate
		Leukemia Mononuclear	
Note: INFLAMMATION	TGLs = 4,14-10		
Note: DILATATION	TGLs = 4,14,15-10		
Prostate		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Seminal Vesicle		Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3+3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Minimal
	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 83	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853139

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Stomach - Forestomach	Stomach - Glandular

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**OBSERVATIONS**

Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 84

TRT#: 2

SEX: Male

DAY ON TEST: 696

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870209

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Islets, Pancreatic	Liver
Mammary Gland	Parathyroid Gland	Pituitary Gland	Prostate
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea			

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Mild
Epididymis		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Small	Jejunum, Muscularis Jejunum	Hyperplasia Inflammation	Moderate Chronic, Marked
Note: [ INFLAMMATION ] TGLs = 6-7.3			
Kidney		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 9,10-4			
Lung		Foreign Body Inflammation	Minimal Chronic Active, Mild
Note: SCATTERED FOCI OF HISTIOCYTIC GIANT CELLS SURROUNDING Note: HAIRS WERE NOTED THROUGHOUT THE LUNG.			
Lymph Node	Mandibular, Sinus Mandibular Mesenteric	Ectasia Hyperplasia Infiltration Cellular	Mild Lymphoid, Minimal Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 11-9 Note: ECTASIA TGLs = 11-9			
Nose	Lumen	Foreign Body Inflammation	Mild Chronic Active, Marked
Note: SEVERAL CROSS SECTIONS OF PLANT MATERIAL WERE NOTED Note: IN THE LUMEN OF THE NOSE.			
Pancreas	Acinus	Atrophy Inflammation	Mild Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 84

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 696

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870209

**ORGAN AND ACCOUNTABLE SITE STATUS**

Preputial Gland		Inflammation	Chronic Active, Minimal
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Marked
Note: ATROPHY	TGLs = 5-6		
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 3-6		
[ Atrophy TGLS = 2-6 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Polyarteritis	Mild

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 85

TRT#: 2

SEX: Male

DAY ON TEST: 459

DOSE: 2,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853138

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Stomach - Forestomach

Stomach - Glandular

**OBSERVATIONS**

Intestine Large

Cecum, Epithelium

Pigmentation

Minimal

Liver

Bile Duct

Hyperplasia

Minimal

Inflammation

Chronic Active, Minimal

Lung

Artery

Mineralization

Minimal

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mesenteric

Pigmentation

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Minimal

Note: ADENOMA TGLs = 1-6

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 86

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870212

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland Note: PHEOCHROM BGN TGLs = 7-8	Medulla	Pheochromocytoma Benign	Multiple
Bone Marrow	Sternal	Myelofibrosis	Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Minimal
		Mixed Cell Focus	
Note: HDN TGLs = 4-3	Artery	Mineralization	Minimal
Lung	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Lymph Node		Hyperplasia	Minimal
Mammary Gland		Fibrosis	Mild
Mesentery		Inflammation	Chronic Active, Marked
Note: INFLAMMATION TGLs = 2-13 [ Fibrosis TGLS = 2-13 ]			
Nose		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Moderate
Note: THE LUMEN OF THE NOSE. Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED IN			
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 86

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870212

**ORGAN AND ACCOUNTABLE SITE STATUS**

Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI Duct, Submandibul GI	Inflammation Metaplasia	Chronic Active, Minimal Squamous, Minimal
Seminal Vesicle		Atrophy	Marked
Note: ATROPHY	TGLs = 6-6		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ADENOMA	TGLs = 3-6		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 87

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870211

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Islets, Pancreatic	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Infarct	Minimal
		Leukemia Mononuclear	
Esophagus		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
	Jejunum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-7.1+8+8.1		
Note: LEUKEMIA MONUC	TGLs = 6-2		
Mammary Gland		Hyperplasia	Mild
		Inflammation	Chronic, Mild
		Leukemia Mononuclear	

Note: WERE NOTED THROUGHOUT THE MAMMARY GLAND.

Note: AGGREGATES OF HISTIOCYTES AND HISTIOCYTIC GIANT CELLS

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 87	<b>TRT#:</b> 2 <b>DOSE:</b> 2,000 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 731 <b>HISTO:</b> 870211
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ORGAN AND ACCOUNTABLE SITE STATUS

Nose		Inflammation Metaplasia	Chronic Active, Marked Squamous, Mild
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED IN Note: THE LUMEN OF THE NOSE.			
Pancreas		Leukemia Mononuclear	
Parathyroid Gland		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY TGLs = 8-6			
Skin			
Note: DESPITE A RECUT THE SKIN MASS TAKEN FROM THE Note: FOR PROPER INTERPRETATION. Note: NONE OF THE UNDERLYING SKIN WHICH WOULD BE REQUIRED Note: SCAPULAR AREA REVEALED ONLY HYPERKERATOSIS WITH			
Spleen		Depletion Lymphoid Leukemia Mononuclear	Marked
Note: LEUKEMIA MONUC TGLs = 4-3			
Stomach	Forestomach Forestomach Glandular	Hyperkeratosis Hyperplasia Leukemia Mononuclear	Minimal Squamous, Minimal
Note: HYPERKERATOSIS TGLs = 9-7 Note: [ HYPERPLASIA ] TGLs = 9-7			
Testes	Bilateral, Interstit Cell Seminif Tub Interstit Cell	Adenoma Atrophy Hyperplasia	Marked Minimal
Note: ADENOMA TGLs = 3-6			
Thymus		Leukemia Mononuclear	
Thyroid Gland		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 87

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870211

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 88

TRT#: 2

SEX: Male

DAY ON TEST: 652

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO:

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Eosinophilic Focus	
Note: [ EOSIN FOCUS ] TGLs = 9-3.1			
Lymph Node	Mandibular, Sinus	Ectasia	Moderate
Note: ECTASIA TGLs = 4-9	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 8-8.1			
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Marked
Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstitial Cell	Adenoma	
Note: ADENOMA TGLs = 5-6	Seminif Tub	Atrophy	Moderate
Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 89

TRT#: 2

SEX: Male

DAY ON TEST: 707

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 8870213

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Prostate	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	

MISSING

Salivary Glands

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN	TGLs = 13-8		
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Cyst	Mild
		Leukemia Mononuclear	
Note: NEPHROPATHY	TGLs = 6-4	Nephropathy	Marked
Liver		Angiectasis	Mild
		Degeneration	Minimal
	Bile Duct	Hyperplasia	Minimal
		Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: [ HYPERPLASIA ]	TGLs = 12-3.1		
Note: LEUKEMIA MONUC	TGLs = 7,8-3		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 89

TRT#: 2

SEX: Male

DAY ON TEST: 707

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 8870213

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 9-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Galactocele	Mild
		Hyperplasia	Moderate
Note: GALACTOCELE TGLs = 10-13			
Note: HYPERPLASIA TGLs = 10-10+13			
Nose		Leukemia Mononuclear	
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
	Pars Distalis	Leukemia Mononuclear	
Note: HYPERPLASIA TGLs = 11-8			
Preputial Gland		Adenocarcinoma	
[ Adenocarcinoma TGLS = 1-14 ]			
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid	Marked
		Fibrosis	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-3+3.2			
[ Fibrosis TGLS = 2-3.2 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 90

TRT#: 2

SEX: Male

DAY ON TEST: 611

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870215

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Coagulating Gland
Epididymis	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Seminal Vesicle	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Mammary Gland	Preputial Gland
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INSUFFICIENT TISSUE

Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
Lung		Alveolar/Bronchiolar Adenoma	
Note: ALV BRON ADEN	TGLs = 7-1		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Skin	Subcut Tiss	Fibroma	
Note: FIBROMA	TGLs = 4-13+13.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 3-6		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 90

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 611

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870215

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 91

TRT#: 2

SEX: Male

DAY ON TEST: 704

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870218

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Parathyroid Gland	Salivary Glands	Seminal Vesicle
Skin	Spinal Cord	Spleen	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Benign	Multiple
	Cortex	Vacuolization Cytoplasmic	Mild
Note: PHEOCHROM BGN TGLs = 5,6-8+8.1			
Heart		Cardiomyopathy	Moderate
Kidney	Transit Epithe	Hyperplasia	Mild
		Nephropathy	Marked
Note: NEPHROPATHY TGLs = 4-4			
Liver	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Mild
Note: BEING NOTED IN A NOTE.			
Note: VISIBLE IN ONE SECTION OF THE NOSE WAS AN AREA			
Note: OF EXTENSIVE HYPERKERATOSIS, ACANTHOSIS, AND BASAL			
Note: CELL HYPERPLASIA. SINCE THE LESION WAS NOT OBSERVED			
Note: BY THE PROSECTOR OR TRIMMER AND THE SOFT PALATE IS			
Note: THE LESIONS AFFECTED THE SOFT PALATE.			
Note: NOT A PROTOCOL REQUIRED TISSUE, THESE LESIONS ARE			
Pancreas		Inflammation	Chronic Active, Minimal
		Mixed Tumor Benign	
		Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Adenoma	Multiple

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

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<b>ANIMAL ID:</b> 91	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 704
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870218

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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Preputial Gland	Duct	Dilatation Inflammation	Marked Chronic Active, Minimal
[ Dilatation TGLS = 2-10 ]			
Prostate		Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Glandular	Fibrosis	Mild
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Glandular	Necrosis	Coagulative, Minimal
Note: HYPERPLASIA TGLs = 8-7.2			
Note: HYPERKERATOSIS TGLs = 8-7.2			
Testes	Seminif Tub Seminif Tub	Atrophy Mineralization	Marked Minimal
Note: ATROPHY TGLs = 3-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 92

TRT#: 2

SEX: Male

DAY ON TEST: 588

DOSE: 2,000 PPM MALE

DISP: Dead

HISTO: 870220

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Lung	Nose
Parathyroid Gland	Pituitary Gland	Prostate	Salivary Glands
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
Brain		Glioma Malignant	
Note: GLIOMA MAL IS MIXED CELL			
Note: [ GLIOMA MAL ] TGLs = 7,8-5+5.1			
Heart		Cardiomyopathy	Moderate
Intestine Small	Ileum	Autolysis	Marked
Islets, Pancreatic		Hyperplasia	Minimal
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal

[ Adenoma TGLS = 4,5-6 ]

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 93

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870216

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Coagulating Gland
Epididymis	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Pancreas
Parathyroid Gland	Seminal Vesicle	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla Cortex	Pheochromocytoma Benign Vacuolization Cytoplasmic	Minimal
Note: PHEOCHROM BGN TGLs = 4-8			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum Colon	Hyperplasia Parasite Metazoan	Glandular, Marked Minimal
Note: THE CECAL LESION IS UNUSUAL. THERE IS EXTENSIVE PROLIF- ERATION OF GLANDS IN THE SUBMUCOSA WITHIN LYMPHOID TISSUE. WERE OBSERVED IN THE CECUM OF ANIMALS AT MUCH HIGHER DOSES OF TURMERIC. THE LESION RESEMBLES COMPOUND RELATED LESIONS THAT [ HYPERPLASIA ] TGLs = 11-7.2			
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney	Transit Epithe	Hyperplasia Leukemia Mononuclear Nephropathy	Minimal Moderate
Liver	Bile Duct	Eosinophilic Focus Hyperplasia Inflammation Leukemia Mononuclear	Mild Minimal Chronic Active, Minimal
Note: LEUKEMIA MONUC TGLs = 8-3			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 93

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870216

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: INFLAMMATION	TGLs = 9-3		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Note: INFLAMMATION	TGLs = 7-6.1		
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Moderate
	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Spleen		Depletion Lymphoid	Moderate
		Fibrosis	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 94

TRT#: 2

SEX: Male

DAY ON TEST: 658

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870219

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Prostate	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Mild
Bone Marrow	Sternal	Myelofibrosis	Mild
Heart		Cardiomyopathy	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
		Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3-3.1		
Note: FATTY CHANGE	TGLs = 5-3+3.1		
Note: [ HYPERPLASIA ]	TGLs = 8-3.1		
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Note: INFLAMMATION	TGLs = 9-10		
Salivary Glands	Submandibul GI	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 94	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 658
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870219

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid Leukemia Mononuclear	Moderate
Note: LEUKEMIA MONUC	TGLs = 4-3.2		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Interstit Cell Seminif Tub	Adenoma Atrophy Hyperplasia Mineralization	Moderate Minimal Minimal
Note: ADENOMA	TGLs = 3-6		
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 95

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870217

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Mammary Gland	Nose	Skin	Stomach - Forestomach
Thymus	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	Multiple
Note: PHEOCHROM BGN	TGLs = 5,6-8		
Bone Marrow	Sternal	Myelofibrosis	Mild
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Parasite Metazoan	Minimal
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
Note: NEPHROPATHY	TGLs = 7-4		
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-3		
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 15-8		
Note: LEUKEMIA MONUC	TGLs = 8-4		
Pancreas	Acinus	Atrophy	Moderate
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

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<b>ANIMAL ID:</b> 95	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 731
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 870217

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Parathyroid Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Intermed	Cyst	Minimal
	Pars Distalis	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Mild
	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-3.1			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA TGLs = 3-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 96

TRT#: 2

SEX: Male

DAY ON TEST: 721

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870222

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Prostate
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

MISSING

Preputial Gland

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 7-4		
Liver	Bile Duct	Hyperplasia	Mild
		Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: [ HYPERPLASIA ]	TGLs = 10,11,12-3.1+3.2		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 13,14-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Deep Cervical	Leukemia Mononuclear	
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 96

TRT#: 2

SEX: Male

DAY ON TEST: 721

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870222

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreatic

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 6-8  
Note: LEUKEMIA MONUC TGLs = 5,20-9.1  
Note: LEUKEMIA MONUC TGLs = 1-9+9.2  
Note: LEUKEMIA MONUC TGLs = 15-2+2.1  
[ Leukemia Mononuclear TGLS = 16-14 ]

Mammary Gland

Galactocele  
Hyperplasia

Mild  
Moderate

Note: GALACTOCELE TGLs = 2-13

Nose

Inflammation  
Leukemia Mononuclear

Chronic Active, Mild

Metaplasia

Squamous, Mild

Mucosa

Ulcer

Mild

Pancreas

Acinus

Atrophy  
Vacuolization Cytoplasmic

Minimal  
Mild

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA TGLs = 18-8

Salivary Glands

Duct, Submandibul GI

Hyperplasia

Minimal

Duct, Submandibul GI

Metaplasia

Squamous, Minimal

Seminal Vesicle

Atrophy

Mild

Skin

Subcut Tiss

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 2-13

Spleen

Depletion Lymphoid

Marked

Fibrosis

Mild

Leukemia Mononuclear

[ Fibrosis TGLS = 19-3.3 ]

[ Leukemia Mononuclear TGLS = 3-3+3.3 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Moderate

Note: ADENOMA TGLs = 4-6

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 96

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 721

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870222

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 97

TRT#: 2

SEX: Male

DAY ON TEST: 519

DOSE: 2,000 PPM MALE

DISP: Dead

HISTO: 870224

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Epididymis	Esophagus	Islets, Pancreatic
Parathyroid Gland	Seminal Vesicle	Skin	Stomach - Forestomach
Trachea			

**OBSERVATIONS**

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Autolysis	Mild
Brain		Infarct	Minimal
		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Moderate
	Rectum	Autolysis	Moderate
Intestine Small	Duodenum	Autolysis	Marked
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Marked
Kidney		Autolysis	Mild
		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	

Note: [ LEUKEMIA MONUC ] TGLs = 3-9

Note: [ LEUKEMIA MONUC ] TGLs = 4-2

Note: [ LEUKEMIA MONUC ] TGLs = 6-7.1+8

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 97

TRT#: 2

SEX: Male

DAY ON TEST: 519

DOSE: 2,000 PPM MALE

DISP: Dead

HISTO: 870224

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Pancreas		Autolysis	Moderate
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Autolysis	Moderate
	Pars Distalis	Leukemia Mononuclear	
	Note: [ LEUKEMIA MONUC ] TGLs = 7-8.1		
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Leukemia Mononuclear	
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Spleen		Autolysis	Moderate
		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
	Note: [ LEUKEMIA MONUC ] TGLs = 5,10-3.1+3.2		
Stomach	Glandular	Autolysis	Moderate
Testes		Leukemia Mononuclear	
Thymus		Leukemia Mononuclear	
Thyroid Gland		Leukemia Mononuclear	
Urinary Bladder		Autolysis	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 98	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853140

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Stomach - Forestomach	Stomach - Glandular	

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**OBSERVATIONS**

Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Moderate
Liver		Fatty Change	Minimal
		Inflammation	Chronic Active, Minimal
[ Fatty Change TGLS = 2-3 ]			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

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**PRIMARY CAUSE OF DEATH**

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 99

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870221

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Medulla	Inflammation	Chronic Active, Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Small	Ileum	Hyperplasia	Lymphoid, Mild
Kidney		Nephropathy	Mild
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Marked
Spleen		Fibrosis	Moderate
Note: FIBROSIS	TGLs = 3-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 99	<b>TRT#:</b> 2 <b>DOSE:</b> 2,000 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 731 <b>HISTO:</b> 870221
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Note: ADENOMA TGLs = 1-6 [ Atrophy TGLS = 2-6 ]	Seminif Tub	Mineralization	Minimal
Thyroid Gland Tongue Note: HEMORRHAGE TGLs = 6-13	Follicular Cel	Adenoma Hemorrhage	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 100

TRT#: 2

SEX: Male

DAY ON TEST: 658

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870223

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Esophagus	Eye	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Nose	Trachea	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Ear	Internal Ear	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 24-13		
Epididymis		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 21-2		
Islets, Pancreatic		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Note: NEPHROPATHY	TGLs = 14-4		
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 15-3		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 20-1+1.1+2.1		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 19-2		
Note: LEUKEMIA MONUC	TGLs = 22-9.1		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 100

TRT#: 2

SEX: Male

DAY ON TEST: 658

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870223

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC	TGLs = 8-9			
Mammary Gland			Hyperplasia	Mild
Pancreas			Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 13-9.1			
Parathyroid Gland			Leukemia Mononuclear	
Pituitary Gland		Pars Distalis	Leukemia Mononuclear	
		Pars Intermed	Leukemia Mononuclear	
		Pars Nervosa	Leukemia Mononuclear	
Preputial Gland			Adenoma	
			Inflammation	Chronic Active, Mild
Note: ADENOMA	TGLs = 5-10.1			
Prostate			Inflammation	Chronic Active, Minimal
			Leukemia Mononuclear	
Salivary Glands		Parotid GI	Leukemia Mononuclear	
		Submandibul GI	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-9			
Note: LEUKEMIA MONUC	TGLs = 7-9			
Seminal Vesicle			Atrophy	Marked
			Leukemia Mononuclear	
Skin			Fibroma	
		Subcut Tiss	Leukemia Mononuclear	
Note: FIBROMA	TGLs = 6-15			
Note: LEUKEMIA MONUC	TGLs = 6-15			
Spleen			Depletion Lymphoid	Marked
			Fibrosis	Minimal
			Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-3.1			
Note: FIBROSIS	TGLs = 23-3.1			
Stomach		Glandular, Mucosa	Dilatation	Mild
		Forestomach	Leukemia Mononuclear	
		Glandular	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

**ANIMAL ID:** 100

**TRT#:** 2  
**DOSE:** 2,000 PPM MALE

**SEX:** Male  
**DISP:** Moribund

**DAY ON TEST:** 658  
**HISTO:** 870223

**ORGAN AND ACCOUNTABLE SITE STATUS**

Testes	Interstitial Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ADENOMA	TGLs = 11-6		
Note: ATROPHY	TGLs = 10-6		
Thymus		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 18-2		
Thyroid Gland		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 17-8		
Urinary Bladder		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 12-9		
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 101

TRT#: 2

SEX: Male

DAY ON TEST: 534

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870228

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Skin	Trachea	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Colon	Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5,6-3+3.1		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-3		
	[ Leukemia Mononuclear TGLS = 10-8 ]		
Mammary Gland		Hyperplasia	Mild
Mesentery		Necrosis	Liquifactive, Mild
Note: NECROSIS	TGLs = 3-9		
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 101	TRT#: 2	SEX: Male	DAY ON TEST: 534
DOSE: 2,000 PPM MALE		DISP: Moribund	HISTO: 870228
ORGAN AND ACCOUNTABLE SITE STATUS			
Pancreas	Mucosa Acinus	Leukemia Mononuclear Ulcer Atrophy Leukemia Mononuclear	Mild Minimal
Note: LEUKEMIA MONUC TGLs = 3-9			
Pituitary Gland	Pars Distalis Pars Intermed Pars Nervosa	Leukemia Mononuclear Leukemia Mononuclear Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate	Epithelium	Hyperplasia Inflammation	Mild Chronic Active, Mild
Salivary Glands	Sublingual GI	Leukemia Mononuclear Leukemia Mononuclear	
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid Leukemia Mononuclear	Marked
Note: LEUKEMIA MONUC TGLs = 4,7-3+3.2			
Stomach	Glandular, Mucosa Forestomach Glandular	Dilatation Leukemia Mononuclear Leukemia Mononuclear	Minimal
Note: LEUKEMIA MONUC TGLs = 12-7+7.2			
Note: LEUKEMIA MONUC TGLs = 11-7			
Testes	Interstit Cell Seminif Tub Interstit Cell	Adenoma Atrophy Hyperplasia	Mild Minimal
[ Adenoma TGLS = 2-6 ]			
Thymus		Ectopic Parathyroid Gland Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 102

TRT#: 2

SEX: Male

DAY ON TEST: 337

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870229

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Pancreas	Parathyroid Gland	Salivary Glands
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Testes	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Brain		Astrocytoma Malignant	
[ Astrocytoma Malignant TGLS = 6-5+5.1 ]			
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Hepatodiaphragmatic Nodule Inflammation	Chronic Active, Minimal
Note: HDN	TGLs = 5-3		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Foreign Body Inflammation Metaplasia Ulcer	Minimal Chronic Active, Marked Squamous, Minimal Mild
Note: FUNGAL HYPHAE AND A CROSS SECTION OF PLANT MATERIAL			
Note: INFLAMMATION TGLs = 4-12			
Note: SURROUNDED BY NEUTROPHILS WERE NOTED WITHIN THE			
Note: LUMEN OF THE NOSE.			
[ Ulcer TGLS = 4-12 ]			
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate	Epithelium	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 102

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 337

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870229

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular

Inflammation

Chronic Active, Mild

Necrosis

Coagulative, Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 103

TRT#: 2

SEX: Male

DAY ON TEST: 722

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870226

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Salivary Glands
Skin	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Islets, Pancreatic		Hyperplasia	Minimal
Kidney		Cyst	Minimal
		Nephropathy	Marked
Note: NEPHROPATHY	TGLs = 7-4+4.1		
Note: CYST	TGLs = 8-4.1		
Liver	Bile Duct	Hyperplasia	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Parathyroid Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION	TGLs = 3-10		
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid	Minimal
		Fibrosis	Moderate
Note: FIBROSIS	TGLs = 6-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 103	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 722
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870226

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ORGAN AND ACCOUNTABLE SITE STATUS			
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Ulcer	Moderate
Note: ULCER	TGLs = 10-7+7.2		
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
Note: ADENOMA	TGLs = 4-6		
Note: ATROPHY	TGLs = 5-6		
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 104

TRT#: 2

SEX: Male

DAY ON TEST: 703

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870227

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Mammary Gland	Parathyroid Gland	Skin
Stomach - Forestomach	Trachea	Urinary Bladder	

INSUFFICIENT TISSUE

Thymus

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Colon	Parasite Metazoan	Minimal
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Moderate
		Hyperplasia	Marked
		Leukemia Mononuclear	
Note: [ HYPERPLASIA ]	TGLs = 9-3		
Note: LEUKEMIA MONUC	TGLs = 10-3		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-2		
Note: LEUKEMIA MONUC	TGLs = 4-9		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 104

TRT#: 2

SEX: Male

DAY ON TEST: 703

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870227

ORGAN AND ACCOUNTABLE SITE STATUS

Nose		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Leukemia Mononuclear	
	Pars Intermed	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Mild
		Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Moderate
		Fibrosis	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
Note: ADENOMA	TGLs = 2,3-6		
	[ Atrophy TGLS = 2-6 ]		
Thyroid Gland	C Cell	Adenoma	
Note: ADENOMA	TGLs = 8-8		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 105

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870225

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Pancreas	Parathyroid Gland	Pituitary Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 4-4		
Liver		Degeneration	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: HDN	TGLs = 5-3		
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
[ Inflammation TGLS = 2-10 ]			
Seminal Vesicle		Atrophy	Moderate
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 105

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870225

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA      TGLs = 3-6

Thyroid Gland

C Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 106

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870230

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Pancreas	Parathyroid Gland
Prostate	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

**OBSERVATIONS**

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Moderate
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 4-4		
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA	TGLs = 9-8		
Mammary Gland		Hyperplasia	Moderate
Note: HYPERPLASIA	TGLs = 7-10		
Nose	Lumen	Foreign Body	Minimal
		Inflammation	Chronic Active, Moderate
Note: ROUNDED BY NEUTROPHILS WERE NOTED IN THE LUMEN OF			
Note: FUNGAL HYPHAE AND PORTIONS OF PLANT MATERIAL SUR-			
Note: THE NOSE.			
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Seminal Vesicle		Atrophy	Marked
Spleen		Fibrosis	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 106

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870230

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: FIBROSIS TGLs = 6-3

Stomach	Glandular, Mucosa	Dilatation	Minimal
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Testes	Bilateral, Interstit Cell	Adenoma	
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Seminif Tub	Atrophy	Marked	
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Note: ADENOMA TGLs = 2-6

[ Atrophy TGLS = 3-6 ]

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**PRIMARY CAUSE OF DEATH**

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 107

TRT#: 2

SEX: Male

DAY ON TEST: 703

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870232

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Parathyroid Gland	Skin	Trachea	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 13-7+7.1+7.2		
Islets, Pancreatic		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
Liver		Fatty Change	Mild
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 10-3		
Note: HDN	TGLs = 10-3		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 12-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 11-2.1		
Note: LEUKEMIA MONUC	TGLs = 7-9+9.1		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 107

TRT#: 2

SEX: Male

DAY ON TEST: 703

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870232

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 9-7.1+8 ]

Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Pancreas		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-9+9.1		
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
	Pars Intermed	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
		Leukemia Mononuclear	
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Mild
	Submandibul GI	Leukemia Mononuclear	
Seminal Vesicle		Atrophy	Marked
Note: ATROPHY	TGLs = 5-6		
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-3+3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Seminif Tub	Mineralization	Minimal
[ Adenoma TGLS = 3-6 ]			
[ Atrophy TGLS = 4-6 ]			
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 107

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 703

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870232

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 108

TRT#: 2

SEX: Male

DAY ON TEST: 459

DOSE: 2,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853141

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Intestine Large - Rectum  
Stomach - Forestomach

Intestine Small - Duodenum  
Stomach - Glandular

Intestine Small - Ileum

Intestine Small - Jejunum

OBSERVATIONS

Intestine Large

Cecum, Submucosa

Inflammation

Chronic Active, Minimal

Cecum

Parasite Metazoan

Minimal

Colon

Parasite Metazoan

Minimal

Liver

Bile Duct

Hyperplasia

Minimal

Inflammation

Chronic Active, Minimal

Lung

Congestion

Minimal

Note: [ CONGESTION ] TGLs = 7-1+2

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mesenteric

Pigmentation

Mild

Note: [ PIGMENT ] TGLs = 8-7.1+8

Pituitary Gland

Pars Distalis

Adenoma

Note: [ ADENOMA ] TGLs = 9-8

Skin

Fibrosarcoma

[ Fibrosarcoma TGLS = 2-10 ]

Spleen

Congestion

Mild

Note: [ CONGESTION ] TGLs = 4-3

Testes

Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Interstit Cell

Hyperplasia

Minimal

Seminif Tub

Mineralization

Minimal

[ Adenoma TGLS = 3-6.1 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 109

TRT#: 2

SEX: Male

DAY ON TEST: 722

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870231

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Skin	Stomach - Forestomach
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Necrosis	Coagulative, Mild
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN TGLs = 14-8			
Bone Marrow	Sternal	Leukemia Mononuclear	
	Sternal	Myelofibrosis	Mild
Epididymis		Mesothelioma Benign	
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Leukemia Mononuclear	
Kidney		Parasite Metazoan	Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 7-4			
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8,12-3			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 10-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-3.1			
Note: LEUKEMIA MONUC TGLs = 3-9			
Mammary Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 109

TRT#: 2

SEX: Male

DAY ON TEST: 722

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870231

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose		Leukemia Mononuclear	
		Metaplasia	Squamous, Mild
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	Multiple
	Pars Distalis	Leukemia Mononuclear	
Note: ADENOMA	TGLs = 11-8		
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Moderate
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
		Mesothelioma Malignant	
	Seminif Tub	Mineralization	Minimal
Note: ATROPHY	TGLs = 4-6		
Note: ADENOMA	TGLs = 5-6		
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 110

TRT#: 2

SEX: Male

DAY ON TEST: 690

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870233

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Skin
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Colon	Parasite Metazoan	Minimal
Islets, Pancreatic		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-3		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Axillary	Leukemia Mononuclear	
	Bronchial	Leukemia Mononuclear	
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 110

TRT#: 2

SEX: Male

DAY ON TEST: 690

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870233

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 9-8.1+9

Mammary Gland

Hyperplasia  
Leukemia Mononuclear

Mild

Note: HYPERPLASIA TGLs = 11-10

Nose Lumen

Foreign Body  
Inflammation  
Leukemia Mononuclear  
Metaplasia

Minimal  
Chronic Active, Moderate

Note: FUNGAL HYPHAE AND PIECES OF PLANT MATERIAL WERE  
Note: SURROUNDED BY NEUTROPHILS WITHIN THE LUMEN OF THE  
Note: NOSE.

Pancreas  
Parathyroid Gland  
Pituitary Gland

Pars Distalis  
Pars Intermed  
Pars Nervosa

Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear  
Inflammation  
Leukemia Mononuclear

Chronic Active, Mild

Note: INFLAMMATION TGLs = 10-10

Prostate  
Salivary Glands  
Seminal Vesicle

Submandibul GI

Leukemia Mononuclear  
Leukemia Mononuclear  
Atrophy  
Leukemia Mononuclear  
Depletion Lymphoid  
Leukemia Mononuclear

Marked

Spleen

Moderate

[ Leukemia Mononuclear TGLS = 5-3+3.1 ]

Stomach Glandular, Mucosa  
Forestomach  
Testes Bilateral, Interstit Cell  
Seminif Tub  
Seminif Tub

Dilatation  
Leukemia Mononuclear  
Adenoma  
Atrophy  
Mineralization

Minimal  
Marked  
Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 110

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 690

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870233

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ATROPHY      TGLs = 4-6

Thymus

Leukemia Mononuclear

Thyroid Gland

Leukemia Mononuclear

Pigmentation

Minimal

Urinary Bladder

Leukemia Mononuclear

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 111

TRT#: 2

SEX: Male

DAY ON TEST: 683

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870235

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Esophagus	Eye	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Parathyroid Gland	Prostate
Salivary Glands	Seminal Vesicle	Skin	Stomach - Forestomach
Trachea	Urinary Bladder		

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Infarct	Mild
		Leukemia Mononuclear	
Note: INFARCT	TGLs = 11-5		
Note: LEUKEMIA MONUC	TGLs = 11-5		
Epididymis		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 13-7.2		
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-3		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 9-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 111

TRT#: 2

SEX: Male

DAY ON TEST: 683

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870235

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 12-9		
Note: LEUKEMIA MONUC	TGLs = 8-2		
Note: LEUKEMIA MONUC	TGLs = 5-8		
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
	Pars Distalis	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Minimal
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3+3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
		Leukemia Mononuclear	
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 112

TRT#: 2

SEX: Male

DAY ON TEST: 606

DOSE: 2,000 PPM MALE

DISP: Dead

HISTO: 870236

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Islets, Pancreatic
Lung	Parathyroid Gland	Prostate	Salivary Glands
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

MISSING

Mammary Gland

OBSERVATIONS

Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Moderate
	Rectum	Autolysis	Moderate
Intestine Small	Duodenum	Autolysis	Moderate
	Ileum	Autolysis	Moderate
	Jejunum	Autolysis	Moderate
Note: AUTOLYSIS	TGLs = 4-7		
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Autolysis	Mild
Pituitary Gland	Pars Distalis	Cyst	Minimal
Preputial Gland		Adenoma	
		Inflammation	Chronic Active, Mild
[ Adenoma TGLS = 1-10.1 ]			
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 2-6		
Thyroid Gland	Follicular Cel	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 112

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 606

**DOSE:** 2,000 PPM MALE

**DISP:** Dead

**HISTO:** 870236

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 113

TRT#: 2

SEX: Male

DAY ON TEST: 602

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870237

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Testes	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Minimal
		Pigmentation	Minimal
[ Pigmentation TGLS = 3-3.1 ]			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Parathyroid Gland		Adenoma	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-8.1			
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate	Epithelium	Hyperplasia	Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 114

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 2,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870234

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Parathyroid Gland	Prostate	Seminal Vesicle
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

MISSING

Mammary Gland

OBSERVATIONS

Epididymis		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Mild
Note: NEPHROPATHY	TGLs = 7-4		
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Mild
Note: INFILTRAT CELL	TGLs = 4-9		
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 9-8		
Preputial Gland		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 114

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 2,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870234

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Moderate

Note: ADENOMA TGLs = 2-6

Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 115

TRT#: 2

SEX: Male

DAY ON TEST: 459

DOSE: 2,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853142

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Eye	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Liver
Stomach - Forestomach	Stomach - Glandular		

**OBSERVATIONS**

Intestine Large	Rectum	Parasite Metazoan	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mandibular	Hemorrhage	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

Note: PIGMENT TGLs = 7-7.2+8

Note: HEMORRHAGE TGLs = 3-9

Preputial Gland

Note: ADENOMA TGLs = 2-10

Adenoma

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 116	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853143

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Stomach - Forestomach
Stomach - Glandular			

---

**OBSERVATIONS**

Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
		Leukemia Mononuclear	
Lung	Artery	Leukemia Mononuclear	
		Mineralization	Minimal
[ Leukemia Mononuclear TGLS = 6-1+2 ]			
Lymph Node	Mandibular	Hemorrhage	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: HEMORRHAGE TGLs = 5-9			
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-3			

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**PRIMARY CAUSE OF DEATH** -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 117

TRT#: 2

SEX: Male

DAY ON TEST: 710

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870238

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Pituitary Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	Multiple
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Schwannoma Benign	
Note: WAS DESIGNATED AS A SCHWANNOMA BGN. THIS IS A RARE TUMOR.			
Note: SPINDLE CELLS WHICH APPEARED TO BE A NEURINOMA WHICH			
Note: THE LEFT VENTRICLE WAS LINED BY A TUMOR COMPOSED OF			
Kidney		Cyst	Mild
	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Marked
Note: NEPHROPATHY TGLs = 9,10-4			
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL			
Note: LEUKEMIA MONUC TGLs = 11-3			
Note: LEUKEMIA.			
Lung		Alveolar/Bronchiolar Adenoma	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 117

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 710

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870238

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Preputial Gland

Inflammation

Chronic Active, Mild

Prostate

Inflammation

Chronic Active, Minimal

Seminal Vesicle

Atrophy

Moderate

Spleen

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 7-3.1

Stomach

Glandular, Mucosa

Dilatation

Mild

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Interstit Cell

Hyperplasia

Minimal

Note: ADENOMA TGLs = 5,6-6

[ Hyperplasia TGLS = 5-6 ]

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 118

TRT#: 2

SEX: Male

DAY ON TEST: 583

DOSE: 2,000 PPM MALE

DISP: Dead

HISTO: 870239

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Intestine Large - Rectum	Islets, Pancreatic	Parathyroid Gland
Prostate	Seminal Vesicle	Skin	Stomach - Forestomach

**MISSING**

Mammary Gland

**OBSERVATIONS**

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Infarct	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4,6-5+5.1			
Note: INFARCT TGLs = 4,6-5+5.1			
Note: LEUKEMIA MONUC TGLs = 6-5+5.1			
Note: INFARCT TGLs = 6-5+5.1			
Epididymis		Leukemia Mononuclear	
Esophagus		Leukemia Mononuclear	
Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Mild
Intestine Small	Duodenum	Autolysis	Mild
	Ileum	Autolysis	Mild
	Jejunum	Autolysis	Moderate
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-3			
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 118

TRT#: 2

SEX: Male

DAY ON TEST: 583

DOSE: 2,000 PPM MALE

DISP: Dead

HISTO: 870239

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Mandibular	Leukemia Mononuclear	
Pancreas	Mesenteric	Leukemia Mononuclear	
		Leukemia Mononuclear	
		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
	Pars Intermed	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 1-6		
Thymus		Leukemia Mononuclear	
Thyroid Gland		Leukemia Mononuclear	
Trachea		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 119	<b>TRT#:</b> 2	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 2,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853144

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Stomach - Forestomach	Stomach - Glandular

---

**OBSERVATIONS**

Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

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Note: PIGMENT TGLs = 3-7+8

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 120

TRT#: 2

SEX: Male

DAY ON TEST: 660

DOSE: 2,000 PPM MALE

DISP: Moribund

HISTO: 870240

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Trachea
Urinary Bladder			

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Mild
		Leukemia Mononuclear	
Liver		Nephropathy	Moderate
		Angiectasis	Mild
		Degeneration	Minimal
		Eosinophilic Focus	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: [ HEPATOCLR ADEN ] TGLs = 7,13-3+3.1+3.2			
Note: LEUKEMIA MONUC TGLs = 8-3+3.1+3.2			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 10-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 12-9			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 120

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 660

**DOSE:** 2,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870240

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Minimal
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-3		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
Note: ADENOMA	TGLs = 2,4-6		
Note: ATROPHY	TGLs = 3-6		
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Adenoma	
Note: ADENOMA	TGLs = 11-8		

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 121

TRT#: 3

SEX: Male

DAY ON TEST: 703

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870148

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Harderian Gland
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Skin
Stomach - Forestomach	Trachea		

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 14-2			
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: [ NEPHROPATHY ] TGLs = 12,13-4			
Liver		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: [ HEPATOCLR ADEN ] TGLs = 11-3.1			
Note: [ LEUKEMIA MONUC ] TGLs = 10-3+3.1			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 121

TRT#: 3

SEX: Male

DAY ON TEST: 703

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870148

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreatic

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 9-9

Note: [ LEUKEMIA MONUC ] TGLs = 15-2

Note: [ LEUKEMIA MONUC ] TGLs = 5-9

[ Leukemia Mononuclear TGLS = 19-8 ]

Mammary Gland

Hyperplasia

Mild

Nose

Inflammation

Chronic Active, Moderate

Metaplasia

Squamous, Mild

Note: WITHIN THE NOSE.

Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED

Pancreas

Acinus

Atrophy

Minimal

Pituitary Gland

Pars Intermed

Cyst

Minimal

Pars Distalis

Hyperplasia

Mild

Pars Distalis

Leukemia Mononuclear

Pars Nervosa

Leukemia Mononuclear

Preputial Gland

Inflammation

Chronic Active, Mild

Leukemia Mononuclear

Prostate

Inflammation

Chronic Active, Minimal

Salivary Glands

Duct, Submandibul GI

Metaplasia

Squamous, Minimal

Seminal Vesicle

Atrophy

Mild

Spleen

Fibrosis

Mild

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 6-3.2

Stomach

Glandular, Mucosa

Dilatation

Mild

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Note: [ ATROPHY ] TGLs = 8-6

Note: [ ADENOMA ] TGLs = 8-6

Thymus

Leukemia Mononuclear

Thyroid Gland

C Cell

Hyperplasia

Minimal

Urinary Bladder

Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 121

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 703

**DOSE:** 10,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870148

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Zymbal's Gland

Cyst

Marked

Note: [ CYST ] TGLs = 2-13

Note: IN THE SUBCUTANEOUS TISSUES IN THE AREA OF ZYMBALS

Note: GLAND THERE WAS A VERY LARGE EPIDERMAL INCLUSION-

Note: LIKE CYST.

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 122

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870146

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla

Bone

Bone Marrow

Brain

Epididymis

Esophagus

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Jejunum

Parathyroid Gland

Prostate

Stomach - Forestomach

Thymus

Thyroid Gland

Trachea

Urinary Bladder

**MISSING**

Mammary Gland

**OBSERVATIONS**

Adrenal Gland

Cortex

Angiectasis

Minimal

Eye

Lids

Fibroma

Note: FIBROMA TGLs = 14-14

Heart

Cardiomyopathy

Mild

Intestine Large

Cecum

Parasite Metazoan

Minimal

Intestine Small

Ileum

Fibrosis

Marked

Ileum

Hyperplasia

Glandular, Mild

Ileum

Inflammation

Chronic Active, Marked

Ileum

Ulcer

Multiple, Marked

Note: FIBROSIS TGLs = 7,8-7

Note: INFLAMMATION TGLs = 7,8-7

Note: ULCER TGLs = 7,8-7

Islets, Pancreatic

Carcinoma

Note: [ CARCINOMA ] TGLs = 6-9.1

Kidney

Nephropathy

Mild

Liver

Bile Duct

Hyperplasia

Minimal

Inflammation

Chronic Active, Minimal

Lung

Alveolar Epith

Hyperplasia

Mild

Artery

Mineralization

Minimal

Lymph Node

Mesenteric, Sinus

Ectasia

Moderate

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Note: ECTASIA TGLs = 10-8.1

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 122

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870146

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose		Inflammation	Chronic Active, Marked
Note: LARGE NUMBERS OF FUNGAL HYPHAE SURROUNDED BY NEUTRO- Note: PHILS WERE NOTED IN THE LUMEN OF THE NOSE.			
Pancreas	Acinus	Atrophy Inflammation Polyarteritis	Minimal Chronic Active, Minimal Marked
Note: POLYARTERITIS TGLs = 5-9.1			
Pituitary Gland	Pars Distalis	Cyst	Minimal
Note: CYST TGLs = 11-8			
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY TGLs = 12-6			
Skin		Acanthosis Hyperkeratosis	Mild Marked
Note: ACANTHOSIS TGLs = 1-13 [ Acanthosis TGLS = 1-13 ]			
Spleen		Fibrosis	Mild
Note: FIBROSIS TGLs = 4-3.1			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell Seminif Tub	Adenoma Atrophy	Marked
Note: ADENOMA TGLs = 2,3-6+6.1			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 123

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870144

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Parathyroid Gland	Prostate	Salivary Glands
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Marked
Note: NEPHROPATHY	TGLs = 7-4		
Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Minimal
	Bronchial	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA	TGLs = 8-2.1		
Mammary Gland		Hyperplasia	Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Hyperplasia	Minimal
Note: [ ANGIECTASIS ]	TGLs = 10-8		
Preputial Gland		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:10

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 123

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870144

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 3-6		
Thyroid Gland	C Cell	Hyperplasia	Minimal
Note: A SMALL AMOUNT OF LIGHT GREEN-YELLOW PIGMENT WAS			
Note: NOTED WITHIN CELLS IN AN ACINUS.			

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**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 124

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870145

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Parathyroid Gland	Prostate	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea

**MISSING**

Mammary Gland	Nose	Pituitary Gland
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**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Mild
	Medulla	Pheochromocytoma Malignant	
Note: [ PHEOCHROM MAL ] TGLs = 7-8.1			
Eye		Cataract	Marked
	Retina	Degeneration	Marked
[ Cataract TGLS = 2-13 ]			
Heart		Cardiomyopathy	Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 8-4			
Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: CLEAR CL FOCUS TGLs = 9-3			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mesentery		Fibrosis	Mild
		Inflammation	Chronic Active, Mild
		Necrosis	Liquifactive, Mild
Note: FIBROSIS TGLs = 5-8			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 124

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870145

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: NECROSIS	TGLs = 5-8			
Preputial Gland			Inflammation	Chronic Active, Mild
Salivary Glands		Submandibul GI	Inflammation	Chronic Active, Minimal
		Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle			Atrophy	Mild
Spleen			Depletion Lymphoid	Mild
			Fibrosis	Mild
Note: FIBROSIS	TGLs = 6-3.1			
Stomach		Glandular, Mucosa	Dilatation	Mild
Testes		Bilateral, Interstit Cell	Adenoma	
		Seminif Tub	Atrophy	Marked
Note: ADENOMA	TGLs = 3,4-6			
Urinary Bladder			Cyst	Marked
Note: CYST	TGLs = 10-9.1			
Note: STRUCTURE LINED BY SIMPLE CUBOIDAL EPITHELIUM AND				
Note: CONTAINING A PINK HOMOGENOUS MATERIAL.				
Note: WITHIN THE WALL OF THE BLADDER WAS A LARGE CYSTIC				

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 125

TRT#: 3

SEX: Male

DAY ON TEST: 722

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870147

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex  
Brain  
Intestine Large - Colon  
Islets, Pancreatic  
Stomach - Forestomach  
Urinary Bladder

Adrenal Gland - Medulla  
Epididymis  
Intestine Large - Rectum  
Parathyroid Gland  
Thymus

Bone  
Esophagus  
Intestine Small - Duodenum  
Salivary Glands  
Thyroid Gland

Bone Marrow  
Intestine Large - Cecum  
Intestine Small - Ileum  
Skin  
Trachea

OBSERVATIONS

Heart

Cardiomyopathy

Mild

Intestine Small

Jejunum, Muscularis  
Jejunum

Hyperplasia  
Inflammation

Moderate  
Chronic, Moderate

Note: THE LESION AFFECTING THE MUSCULARIS OF THE JEJUNUM  
Note: TUMOR OF THE MUSCULARIS. NUMEROUS NEUTROPHILS WERE  
Note: [ INFLAMMATION ] TGLs = 3-7  
Note: NOTED INFILTRATING THE LESION.  
Note: WAS DIFFICULT TO INTERPRETE; HOWEVER, IN LIGHT OF  
Note: THE LACK OF ULCERATION ON THE MUCOSAL SURFACE,  
Note: IT SEEMED MORE LOGICAL THAT THE CHANGE WAS A BENIGN

Kidney

Leukemia Mononuclear  
Nephropathy

Moderate

Note: NEPHROPATHY TGLs = 7-4

Liver

Angiectasis  
Eosinophilic Focus  
Hyperplasia  
Leukemia Mononuclear

Mild

Bile Duct

Mild

Note: [ EOSIN FOCUS ] TGLs = 8,9,15-3.1+3.2

Note: LEUKEMIA MONUC TGLs = 10-3+3.1+3.2

Lung

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 11-1+2

Lymph Node

Mesenteric  
Pancreatic

Infiltration Cellular  
Infiltration Cellular

Histiocyte, Minimal  
Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 125

TRT#: 3

SEX: Male

DAY ON TEST: 722

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870147

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mediastinal

Leukemia Mononuclear

Pancreatic

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 5-9.1

Note: LEUKEMIA MONUC TGLs = 14-2

Mammary Gland

Hyperplasia

Mild

Nose

Inflammation

Chronic Active, Minimal

Pancreas

Polyarteritis

Mild

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA TGLs = 12-8

Preputial Gland

Inflammation

Chronic Active, Mild

Prostate

Epithelium

Hyperplasia

Minimal

Seminal Vesicle

Atrophy

Mild

Spleen

Fibrosis

Mild

Note: LEUKEMIA MONUC TGLs = 4-3

Note: FIBROSIS TGLs = 4,13-3

Stomach

Glandular, Mucosa

Dilatation

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Mild

Interstit Cell

Hyperplasia

Minimal

Note: ADENOMA TGLs = 2-6

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:10  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

**ANIMAL ID:** 126

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 456

**DOSE:** 10,000 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853126

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Intestine Large - Rectum  
Stomach - Glandular

Intestine Small - Duodenum

Intestine Small - Jejunum

Stomach - Forestomach

**OBSERVATIONS**

Intestine Large

Cecum

Parasite Metazoan

Minimal

Colon

Parasite Metazoan

Minimal

Intestine Small

Ileum, Submucosa

Inflammation

Acute, Minimal

Lymph Node

Mandibular

Hemorrhage

Minimal

Mesenteric

Infiltration Cellular

Histiocyte, Mild

Mesenteric

Pigmentation

Minimal

Note: HEMORRHAGE TGLs = 5-9

PRIMARY CAUSE OF DEATH

-



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 127

TRT#: 3

SEX: Male

DAY ON TEST: 645

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870143

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex  
Epididymis  
Intestine Large - Rectum  
Islets, Pancreatic  
Skin  
Urinary Bladder

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Duodenum  
Parathyroid Gland  
Stomach - Forestomach

Bone  
Intestine Large - Cecum  
Intestine Small - Ileum  
Prostate  
Thymus

Bone Marrow  
Intestine Large - Colon  
Intestine Small - Jejunum  
Salivary Glands  
Trachea

OBSERVATIONS

Brain Cerebrum Infarct Minimal  
Thrombosis Mild

Note: SECONDARY TO AN INFARCT.

Note: MALACIA, GLIOSIS, AND PIGMENT LADEN MACROPHAGES

Note: BRUM THERE WERE MULTIPLE SMALL THROMBI, HEMORRHAGE,

Note: IN A FOCAL AREA JUST BELOW THE SURFACE OF THE CERE-

[ Infarct TGLS = 5-5.1 ]

[ Thrombosis TGLS = 5-5.1 ]

Heart Cardiomyopathy Mild  
Kidney Nephropathy Mild  
Liver Angiectasis Minimal  
Degeneration Minimal  
Bile Duct Hyperplasia Mild  
Leukemia Mononuclear  
Necrosis Coagulative, Minimal

Note: [ LEUKEMIA MONUC ] TGLs = 4-3

Note: RARE SINGLE CELL NECROSIS OF HEPATOCYTES WAS NOTED.

Lung Alveolar Epith Hyperplasia Mild  
Leukemia Mononuclear  
Artery Mineralization Minimal

Note: [ HYPERPLASIA ] TGLs = 6-1.1

Lymph Node Mesenteric Infiltration Cellular Histiocyte, Minimal  
Mammary Gland Hyperplasia Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 127

TRT#: 3

SEX: Male

DAY ON TEST: 645

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870143

ORGAN AND ACCOUNTABLE SITE STATUS

Note: GRANULES OF YELLOW GREEN PIGMENT WERE NOTED IN

Note: ACINAR CELLS.

Nose

Inflammation

Chronic Active, Moderate

Metaplasia

Squamous, Mild

Note: ASPERGILLUS SPECIES.

Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED

Note: WITHIN THE LUMEN OF THE NOSE. PRESUMABLY THIS IS

Pancreas

Acinus

Atrophy

Minimal

Pituitary Gland

Pars Distalis

Hyperplasia

Mild

Preputial Gland

Inflammation

Chronic Active, Mild

Seminal Vesicle

Atrophy

Mild

Spleen

Fibrosis

Minimal

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 3-3.1 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Testes

Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Minimal

Thyroid Gland

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 128

TRT#: 3

SEX: Male

DAY ON TEST: 707

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870149

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Prostate	Skin
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Adenoma	
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Capsule	Thrombosis	Minimal
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Ulcer	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 10-3			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: [ LEUKEMIA MONUC ] TGLs = 11-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 14-9			
Note: [ LEUKEMIA MONUC ] TGLs = 8-8			
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Marked
		Inflammation	Chronic Active, Marked
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 128	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 707
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870149

ORGAN AND ACCOUNTABLE SITE STATUS

		Necrosis	Liquifactive, Marked
Note: [ NECROSIS ] TGLs = 9-13			
Note: [ FIBROSIS ] TGLs = 9-13			
Note: [ LEUKEMIA MONUC ] TGLs = 9-13			
Note: [ INFLAMMATION ] TGLs = 9-13			
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid	Mild
		Fibrosis	Minimal
		Leukemia Mononuclear	
Note: [ FIBROSIS ] TGLs = 12-3.1			
Note: [ LEUKEMIA MONUC ] TGLs = 5-3.1			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Glandular	Leukemia Mononuclear	
	Glandular	Necrosis	Coagulative, Marked
Note: [ NECROSIS ] TGLs = 13-7+7.1			
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
		Hemorrhage	Mild
	Interstit Cell	Hyperplasia	Minimal
Note: [ ADENOMA ] TGLs = 2,3,4-6			
Note: [ ATROPHY ] TGLs = 2-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 129

TRT#: 3

SEX: Male

DAY ON TEST: 459

DOSE: 10,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853125

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Intestine Large - Cecum  
Intestine Small - Jejunum

Intestine Large - Colon  
Stomach - Forestomach

Intestine Large - Rectum

Intestine Small - Duodenum

**OBSERVATIONS**

Intestine Small

Epithelium, Ileum

Pigmentation

Minimal

Liver

Inflammation

Chronic Active, Minimal

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Mild

Mesenteric

Pigmentation

Minimal

Sebaceous GI

Adenoma

Skin

Note: ADENOMA TGLs = 3-10

Stomach

Glandular

Inflammation

Chronic, Minimal

Testes

Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Minimal

Note: ADENOMA TGLs = 1-6

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:10

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 130

TRT#: 3

SEX: Male

DAY ON TEST: 654

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870150

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Esophagus	Intestine Large - Cecum
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Mammary Gland	Nose	Parathyroid Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Minimal
Brain		Leukemia Mononuclear	
Epididymis		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Degeneration	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 8-3			
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 11-9			
Pancreas	Acinus	Atrophy	Mild
		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 130

TRT#: 3

SEX: Male

DAY ON TEST: 654

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870150

**ORGAN AND ACCOUNTABLE SITE STATUS**

Seminal Vesicle

Spleen

Leukemia Mononuclear

Atrophy

Mild

Depletion Lymphoid

Marked

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 7-3.1

Stomach

Testes

Glandular, Mucosa

Bilateral, Interstit Cell

Dilatation

Minimal

Seminif Tub

Seminif Tub

Adenoma

Atrophy

Marked

Mineralization

Minimal

Note: [ ADENOMA ] TGLs = 4,5-6

Thyroid Gland

C Cell

Hyperplasia

Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 131

TRT#: 3

SEX: Male

DAY ON TEST: 662

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870154

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Brain	Epididymis	Esophagus	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pituitary Gland	Salivary Glands	Skin	Thymus
Thyroid Gland	Trachea		

MISSING

Bone	Bone Marrow		
------	-------------	--	--

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: [ PHEOCHROM BGN ] TGLs = 7-8			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney		Cyst	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Leukemia Mononuclear	
		Nephropathy	Marked
Note: [ NEPHROPATHY ] TGLs = 8-4			
Liver		Angiectasis	Minimal
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: [ LEUKEMIA MONUC ] TGLs = 9-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 4-13 ]			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 131

TRT#: 3

SEX: Male

DAY ON TEST: 662

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870154

ORGAN AND ACCOUNTABLE SITE STATUS

Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Parathyroid Gland		Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 13-8			
Preputial Gland	Duct	Dilatation	Moderate
Note: [ DILATATION ] TGLs = 3-10		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid	Minimal
		Fibrosis	Moderate
		Leukemia Mononuclear	
Note: [ FIBROSIS ] TGLs = 6-3.1			
Note: [ LEUKEMIA MONUC ] TGLs = 6-3.1			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Seminif Tub	Mineralization	Minimal
Note: [ ADENOMA ] TGLs = 5,10-6			
Urinary Bladder		Inflammation	Chronic Active, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 132

TRT#: 3

SEX: Male

DAY ON TEST: 667

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870153

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Skin	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Liver	Bile Duct	Hyperplasia	Minimal
		Hyperplasia	Mild
		Leukemia Mononuclear	
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	

Note: [ LEUKEMIA MONUC ] TGLs = 10-3+3.1

Note: [ HYPERPLASIA ] TGLs = 7-3.1

Note: THERE WERE SMALL AGGREGATES OF LYMPHOCYTES AND THE

Note: LESION WAS CIRCUMSCRIBED.

Note: LUMBAR LYMPH NODE. AROUND THE MARGIN OF THE LESION

Note: WAS NOTED IN WHAT APPEARED TO BE THE REMAINS OF A

Note: CELLS, AND POORLY DIFFERENTIATED MYXOMATOUS CELLS

Note: A MESENCHYMAL TUMOR COMPOSED OF FIBROUS TISSUE, FAT

Note: [ LEUKEMIA MONUC ] TGLs = 9-9

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 132

TRT#: 3

SEX: Male

DAY ON TEST: 667

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870153

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 4-9 ]

Mammary Gland

Hyperplasia

Minimal

Mesentery

Liposarcoma

Note: [ LIPOSARC ] TGLs = 6-13

Nose

Inflammation

Chronic Active, Moderate

Note: IN THE LUMEN OF THE NOSE.

Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED

Pancreas

Acinus

Atrophy

Mild

Cytoplasmic Alteration

Mild

Leukemia Mononuclear

Note: INCREASED NUMBERS OF ZYMOGEN GRANULES WERE NOTED

Note: IN CLUSTERS OF ACINAR CELLS.

Pituitary Gland

Pars Distalis

Leukemia Mononuclear

Preputial Gland

Inflammation

Chronic Active, Mild

Prostate

Inflammation

Chronic Active, Minimal

Seminal Vesicle

Atrophy

Moderate

Spleen

Depletion Lymphoid

Mild

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 5-3.1+3.2 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Forestomach

Hyperplasia

Squamous, Mild

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Note: [ ATROPHY ] TGLs = 3-6

Note: [ ADENOMA ] TGLs = 3-6

Thyroid Gland

C Cell

Hyperplasia

Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 133

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870151

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex  
Brain  
Intestine Large - Colon  
Islets, Pancreatic  
Spleen  
Urinary Bladder

Adrenal Gland - Medulla  
Epididymis  
Intestine Small - Duodenum  
Parathyroid Gland  
Stomach - Forestomach

Bone  
Esophagus  
Intestine Small - Ileum  
Salivary Glands  
Thymus

Bone Marrow  
Intestine Large - Cecum  
Intestine Small - Jejunum  
Skin  
Trachea

**OBSERVATIONS**

Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney	Renal Tubule	Hyperplasia	Minimal
		Nephropathy	Marked
Note: NEPHROPATHY	TGLs = 4,8-4+4.1		
Liver		Degeneration	Minimal
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Note: HYPERPLASIA	TGLs = 10-10		
Nose		Inflammation	Chronic Active, Mild
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 6-8		
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Note: INFLAMMATION	TGLs = 9-6.1		
Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 133	<b>TRT#:</b> 3 <b>DOSE:</b> 10,000 PPM MALE	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 730 <b>HISTO:</b> 870151
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Testes  Note: ADENOMA      TGLs = 2-6 [ Atrophy TGLS = 3-6 ]	Bilateral, Interstit Cell Seminif Tub	Adenoma Atrophy	Marked
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 134

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870152

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Pituitary Gland	Salivary Glands	Skin	Stomach - Forestomach
Trachea	Urinary Bladder		

OBSERVATIONS

Bone Marrow	Sternal	Myelofibrosis	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
Note: THE EPITHELIUM OF THE CECUM.			
Note: VERY SUBTLE LIGHT BROWN PIGMENTATION WAS NOTED IN			
Kidney		Nephropathy	Moderate
Liver		Degeneration	Minimal
		Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: [ HYPERPLASIA ] TGLs = 4-3			
Note: LEUKEMIA MONUC TGLs = 4-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 134

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870152

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Interstit Cell

Hyperplasia

Minimal

Seminif Tub

Mineralization

Minimal

Note: ADENOMA      TGLs = 3-6

Thymus

Cyst

Minimal

Leukemia Mononuclear

Thyroid Gland

Follicular Cel

Cyst

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 135

TRT#: 3

SEX: Male

DAY ON TEST: 459

DOSE: 10,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853127

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Stomach - Forestomach

Stomach - Glandular

**OBSERVATIONS**

Intestine Large

Cecum, Epithelium

Pigmentation

Minimal

Liver

Hepatocellular Adenoma

Bile Duct

Hyperplasia

Minimal

Inflammation

Chronic Active, Minimal

Note: [ HEPATOCLR ADEN ] TGLs = 3-3.1

Lung

Artery

Mineralization

Minimal

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mesenteric

Pigmentation

Minimal

Nose

Glands

Hyperplasia

Mild

Lumen

Inflammation

Acute, Marked

Respirat Epith

Metaplasia

Squamous, Mild

Note: SPECIES.

Note: VISIBLE IN THE LUMEN OF THE NOSE, PRESUMABLY ASPERGILLUS

Note: LARGE NUMBERS OF SEPTATE BRANCHING FUNGAL HYPHAE WERE

Note: INFLAMMATION TGLs = 5-12+12.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 136

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 459

**DOSE:** 10,000 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853128

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Colon  
Stomach - Forestomach

Intestine Large - Rectum  
Stomach - Glandular

Intestine Small - Duodenum

Intestine Small - Jejunum

---

**OBSERVATIONS**

Intestine Large  
Intestine Small  
Lung  
Lymph Node

Cecum  
Epithelium, Ileum  
Artery  
Mesenteric  
Mesenteric  
Mesenteric

Parasite Metazoan  
Pigmentation  
Mineralization  
Hyperplasia  
Infiltration Cellular  
Pigmentation

Minimal  
Minimal  
Minimal  
Lymphoid, Mild  
Histiocyte, Mild  
Minimal

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Note: THE SITE CECAL WAS NOT AVAILABLE IN THE PEIS.

Note: THE CECAL LYMPH NODE WAS DESIGNATED MESENTERIC BECAUSE

Note: HYPERPLASIA TGLs = 6-8

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 137

TRT#: 3

SEX: Male

DAY ON TEST: 568

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870157

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Eye	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Spleen	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Hematopoietic Cell Proliferation	Minimal
	Medulla	Hematopoietic Cell Proliferation	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Islets, Pancreatic		Adenoma	
[ Adenoma TGLS = 8-9 ]			
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
Lung		Thrombosis	Marked
Note: THROMBUS	TGLs = 2-2.1		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Seminal Vesicle		Atrophy	Mild
Skeletal Muscle		Rhabdomyosarcoma	
Note: [ RHABDOMYOSARC ]	TGLs = 3-2.2+2.3+14		
Spleen			
Note: AREA OF THE SPLEEN.			
Note: LARGE NUMBERS OF RBC'S WERE AGGREGATED IN A FOCAL			
Stomach	Glandular, Mucosa	Dilatation	Mild
Note: ENED. THIS COULD BE AN ARTEFACT DUE TO GETTING			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 137	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 568
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870157

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: FIXATIVE IN THE SUBMUCOSA DURING INSTILLATION OF THE

Note: STOMACH.

Note: THE SUBMUCOSA OF THE FORESTOMACH APPEARS TO BE THICK-

Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 4-6		
Thyroid Gland	C Cell	Hyperplasia	Minimal
		Pigmentation	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 138

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870155

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Benign	Multiple
Note: PHEOCHROM BGN TGLs = 16-8			
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 6-4			
Liver		Degeneration	Minimal
		Eosinophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
Lung	Alveolar Epith	Hyperplasia	Mild
Note: [ HYPERPLASIA ] TGLs = 8-2.1			
Lymph Node	Pancreatic, Sinus	Ectasia	Mild
	Mandibular	Hyperplasia	Plasma Cell, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 13-9			
Note: HYPERPLASIA TGLs = 11-9			
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Mild
		Inflammation	Chronic Active, Mild
		Necrosis	Liquifactive, Moderate
Note: FIBROSIS TGLs = 2-13			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 138	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 730
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 870155

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Fibrosis TGLS = 2-13 ]

[ Necrosis TGLS = 2-13 ]

Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 10-8		
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: ATROPHY	TGLs = 4-6		
Note: ADENOMA	TGLs = 3-6		

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 139

TRT#: 3

SEX: Male

DAY ON TEST: 459

DOSE: 10,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853129

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex  
Intestine Large - Rectum  
Lung  
Thyroid Gland

Adrenal Gland - Medulla  
Intestine Small - Duodenum  
Skin

Intestine Large - Cecum  
Intestine Small - Ileum  
Stomach - Forestomach

Intestine Large - Colon  
Intestine Small - Jejunum  
Stomach - Glandular

**OBSERVATIONS**

Liver  
Basophilic Focus  
Hepatodiaphragmatic Nodule  
Inflammation  
[ Hepatodiaphragmatic Nodule TGLS = 6-3 ]  
Lymph Node  
Mesenteric  
Mesenteric  
Infiltration Cellular  
Pigmentation  
Inflammation  
Preputial Gland  
Testes  
Bilateral, Interstit Cell  
Seminif Tub  
Interstit Cell  
Adenoma  
Atrophy  
Hyperplasia

Chronic Active, Minimal

Histiocyte, Mild

Minimal

Chronic, Minimal

Minimal

Mild

Note: ADENOMA TGLs = 3-6.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 140

TRT#: 3

SEX: Male

DAY ON TEST: 674

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870156

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Stomach - Forestomach	Stomach - Glandular
Trachea	Urinary Bladder		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Benign	Multiple
Note: PHEOCHROM BGN TGLs = 7-8			
Heart		Cardiomyopathy	Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
Note: NEPHROPATHY TGLs = 8-4			
Liver		Angiectasis	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung	Alveolar Epith	Hyperplasia	Minimal
Lymph Node	Mandibular	Hyperplasia	Plasma Cell, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Hyperplasia TGLS = 3-9 ]			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Moderate
	Mucosa	Ulcer	Moderate
Note: IN THE LUMEN OF THE NOSE. IN ADDITION THERE WAS A			
Note: FOCAL AREA OF MUCOSAL ULCERATION WITH MARKED ACUTE			
Note: INFLAMMATION.			
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED			
Pancreas		Vacuolization Cytoplasmic	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 140

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 674

**DOSE:** 10,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870156

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: ANGIECTASIS TGLs = 14-8	Pars Distalis	Angiectasis	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Skin [ Squamous Cell Papilloma TGLS = 2-13 ]		Squamous Cell Papilloma	
Spleen Note: LEUKEMIA MONUC TGLs = 6,17-3.1		Leukemia Mononuclear	
Testes Note: ADENOMA TGLs = 4-6 [ Atrophy TGLS = 5-6 ]	Bilateral, Interstit Cell Seminif Tub Interstit Cell Seminif Tub	Adenoma Atrophy Hyperplasia Mineralization	Moderate Minimal Minimal
Thyroid Gland		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 141

TRT#: 3

SEX: Male

DAY ON TEST: 337

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870161

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Liver	Lung
Pancreas	Parathyroid Gland	Prostate	Salivary Glands
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Testes	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

**OBSERVATIONS**

Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Adenocarcinoma	
[ Adenocarcinoma TGLS = 3-13 ]			
Nose	Lumen	Foreign Body	Minimal
		Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Minimal
	Mucosa	Ulcer	Minimal
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS PLUS A			
Note: HAIR SHAFT WAS NOTED IN THE LUMEN OF THE NOSE.			
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 142

TRT#: 3

SEX: Male

DAY ON TEST: 682

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870158

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Pituitary Gland	Prostate	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Medulla	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN TGLs = 5-8			
Bone Marrow	Sternal	Histiocytic Sarcoma	
Heart		Cardiomyopathy	Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
Note: NEPHROPATHY TGLs = 6-4			
Liver		Histiocytic Sarcoma	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: [ HISTIO SARC ] TGLs = 8-3+3.1			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-9			
Nose		Inflammation	Chronic Active, Mild
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 142

TRT#: 3

SEX: Male

DAY ON TEST: 682

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870158

**ORGAN AND ACCOUNTABLE SITE STATUS**

Preputial Gland		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal

Note: ADENOMA TGLs = 3-6

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 143

TRT#: 3

SEX: Male

DAY ON TEST: 676

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870159

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Parathyroid Gland	Prostate	Salivary Glands
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Heart		Cardiomyopathy	Moderate
	Atrium	Leukemia Mononuclear	
Note: THROMBUS	TGLs = 24-2	Thrombosis	Moderate
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Degeneration	Mild
	Bile Duct	Fatty Change	Mild
		Hyperplasia	Mild
		Leukemia Mononuclear	
Note: FATTY CHANGE	TGLs = 25-3.2		
Note: LEUKEMIA MONUC	TGLs = 19,20,21,22-3+3.1+3.2		
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 18-1		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 16-3.2		
Note: LEUKEMIA MONUC	TGLs = 14-7.1+9		
Mammary Gland		Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 143

TRT#: 3

SEX: Male

DAY ON TEST: 676

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870159

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: HYPERPLASIA	TGLs = 4-10+13+14		
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland		Adenoma	
	Pars Distalis	Angiectasis	Moderate
	Pars Intermed		
Note: ADENOMA	TGLs = 23-8		
Preputial Gland		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY	TGLs = 8-6		
Skin		Fibroma	
	[ Fibroma TGLS = 3-13 ]		
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 11-3.3		
Stomach		Dilatation	Minimal
Testes		Adenoma	
	Glandular, Mucosa	Atrophy	Marked
	Interstit Cell		
	Seminif Tub		
Note: ADENOMA	TGLs = 6-6		
	[ Adenoma TGLS = 5-6 ]		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01  
Test Type: CHRONIC  
Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA  
Test Compound: Turmeric, oleoresin (curcumin)  
CAS Number: 8024-37-1

Date Report Requested: 10/16/2014  
Time Report Requested: 04:12:11  
First Dose M/F: NA / NA  
Lab: TSI MASON

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ANIMAL ID: 144	TRT#: 3	SEX: Male	DAY ON TEST: 456
	DOSE: 10,000 PPM MALE	DISP: Interval Sacrifice	HISTO: 853130

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Skin	Stomach - Forestomach
Stomach - Glandular			

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**OBSERVATIONS**

Liver		Degeneration	Minimal
Lung		Alveolar/Bronchiolar Adenoma	
	Artery	Mineralization	Minimal
[ Alveolar/Bronchiolar Adenoma TGLS = 3-1 ]			
Lymph Node	Mandibular	Hemorrhage	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

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Note: HEMORRHAGE TGLs = 2-9

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 145

TRT#: 3

SEX: Male

DAY ON TEST: 585

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870160

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Parathyroid Gland
Salivary Glands	Seminal Vesicle	Skin	Spleen
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Kidney		Cyst	Mild
		Nephropathy	Moderate
	[ Cyst TGLS = 3-4 ]		
	[ Nephropathy TGLS = 2,4-4 ]		
Liver		Basophilic Focus	
		Degeneration	Minimal
		Fatty Change	Minimal
		Hyperplasia	Minimal
Lymph Node	Bile Duct	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric		
Note: HYPERPLASIA	TGLs = 14-8		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Stomach	Forestomach	Hyperplasia	Squamous, Mild
Note: HYPERPLASIA	TGLs = 15,16-7		
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 145

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 585

**DOSE:** 10,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870160

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Seminif Tub

Mineralization

Minimal

Note: ADENOMA TGLs = 8-6

Thyroid Gland

C Cell

Adenoma

Note: ADENOMA TGLs = 12-8

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 146

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 499

**DOSE:** 10,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870166

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Epididymis	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

**MISSING**

Esophagus	Preputial Gland		
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**OBSERVATIONS**

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
Brain		Infarct	Moderate
		Leukemia Mononuclear	
Note: [ INFARCT ] TGLs = 9-5+5.1			
Note: [ LEUKEMIA MONUC ] TGLs = 9-5+5.1			
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 7-3			
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 4-7.1+8			
Note: [ LEUKEMIA MONUC ] TGLs = 5-3			
Note: [ LEUKEMIA MONUC ] TGLs = 8-9			
Mammary Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 146	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 499
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870166

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLS = 1-10 ]

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy Leukemia Mononuclear	Marked
Pituitary Gland	Pars Distalis Pars Distalis Pars Distalis	Adenoma Hyperplasia Leukemia Mononuclear	Minimal
Prostate		Inflammation Leukemia Mononuclear	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Minimal
Spleen		Depletion Lymphoid Leukemia Mononuclear	Moderate
Note: [ LEUKEMIA MONUC ] TGLs = 2-3.1			
Testes	Interstit Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 147

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870162

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Skin	Stomach - Forestomach
Thymus	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Leukemia Mononuclear	
Liver		Nephropathy	Mild
		Basophilic Focus	
		Degeneration	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	Minimal
Note: [ LEUKEMIA MONUC ] TGLs = 6-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Lymph Node	Mandibular, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 8-8			
[ Ectasia TGLS = 2-9 ]			
Mammary Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 147

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870162

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy Inflammation	Mild Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: [ ADENOMA ] TGLs = 7-8			
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Spleen		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 5-3			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: [ ADENOMA ] TGLs = 3,4-6			
Thyroid Gland	C Cell	Hyperplasia	Mild
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 148

TRT#: 3

SEX: Male

DAY ON TEST: 648

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870164

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Esophagus	Intestine Large - Cecum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN	TGLs = 9-8		
Bone Marrow	Sternal	Leukemia Mononuclear	
Epididymis		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 11-8		
Note: LEUKEMIA MONUC	TGLs = 2-9		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 148

TRT#: 3

SEX: Male

DAY ON TEST: 648

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870164

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 10-2			
Nose		Inflammation	Chronic Active, Moderate
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED IN			
Note: THE LUMEN OF THE NOSE.			
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-3.1			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA TGLs = 3-6			
Thymus		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 149

TRT#: 3

SEX: Male

DAY ON TEST: 661

DOSE: 10,000 PPM MALE

DISP: Dead

HISTO: 870163

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Lacrimal Gland	Liver
Lung	Mammary Gland	Parathyroid Gland	Preputial Gland
Salivary Glands	Seminal Vesicle	Spleen	Thyroid Gland
Trachea	Urinary Bladder		

**MISSING**

Thymus

**INSUFFICIENT TISSUE**

Eye

**OBSERVATIONS**

Adrenal Gland Note: PHEOCHROM BGN TGLs = 6-8	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Moderate
	Rectum	Autolysis	Moderate
Intestine Small	Duodenum	Autolysis	Moderate
	Ileum	Autolysis	Moderate
	Jejunum	Autolysis	Moderate
Islets, Pancreatic		Hyperplasia	Mild
Kidney		Autolysis	Moderate
	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose Note: WITHIN THE LUMEN OF THE NOSE. Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED Note: INFLAMMATION TGLs = 3-12		Inflammation	Chronic Active, Moderate
Pancreas		Autolysis	Mild
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 149

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 661

**DOSE:** 10,000 PPM MALE

**DISP:** Dead

**HISTO:** 870163

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 10-8 ]

Prostate		Inflammation	Chronic Active, Moderate
Note: INFLAMMATION	TGLs = 13-8		
Skin		Abscess	Marked
Note: ABSCESS	TGLs = 4-13		
Stomach	Glandular	Autolysis	Moderate
Testes	Seminif Tub	Atrophy	Minimal
	Interstit Cell	Hyperplasia	Minimal
Note: HYPERPLASIA	TGLs = 5-6		

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 150

TRT#: 3

SEX: Male

DAY ON TEST: 579

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870165

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Seminal Vesicle
Skin	Thyroid Gland	Trachea	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Bone Marrow	Sternal	Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
		Note: [ LEUKEMIA MONUC ] TGLs = 5-7	
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Note: [ LEUKEMIA MONUC ] TGLs = 9-3	
Lung		Leukemia Mononuclear	
		Note: [ LEUKEMIA MONUC ] TGLs = 8-1+2	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
		Note: [ LEUKEMIA MONUC ] TGLs = 7-2	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 150

TRT#: 3

SEX: Male

DAY ON TEST: 579

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870165

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: [ LEUKEMIA MONUC ] TGLs = 6-7.1+8

Note: [ LEUKEMIA MONUC ] TGLs = 2-9

Mammary Gland

Hyperplasia

Minimal

Nose

Inflammation

Chronic Active, Minimal

Pancreas

Acinus

Atrophy

Mild

Leukemia Mononuclear

Polyarteritis

Mild

Pituitary Gland

Pars Distalis

Leukemia Mononuclear

Preputial Gland

Inflammation

Chronic Active, Minimal

Prostate

Inflammation

Chronic Active, Minimal

Salivary Glands

Submandibul GI

Leukemia Mononuclear

Spleen

Depletion Lymphoid

Marked

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 4-3.1 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Minimal

Note: [ ADENOMA ] TGLs = 3-6

Thymus

Leukemia Mononuclear

Urinary Bladder

Leukemia Mononuclear

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 151

TRT#: 3

SEX: Male

DAY ON TEST: 634

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870169

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Mild
Note: LEUKEMIA MONUC	TGLs = 10-8		
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 11,12-4		
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 13,14+3+3.1		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 15-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-9.1		
Note: LEUKEMIA MONUC	TGLs = 4-9		
[ Leukemia Mononuclear TGLS = 9-8 ]			
Mammary Gland		Hyperplasia	Moderate
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 151

TRT#: 3

SEX: Male

DAY ON TEST: 634

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870169

ORGAN AND ACCOUNTABLE SITE STATUS

Nose		Inflammation	Chronic Active, Mild
		Leukemia Mononuclear	

Note: THE LUMEN OF THE NOSE.

Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED IN

Pancreas	Acinus	Atrophy	Minimal
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Leukemia Mononuclear

Pituitary Gland	Pars Distalis	Adenoma	
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Pars Distalis

Leukemia Mononuclear

Note: ADENOMA TGLs = 16-8

Preputial Gland		Inflammation	Chronic Active, Mild
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Prostate		Inflammation	Chronic Active, Mild
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Salivary Glands	Submandibul GI	Leukemia Mononuclear	
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Seminal Vesicle		Atrophy	Moderate
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Leukemia Mononuclear

Note: ATROPHY TGLs = 6-6

Skin		Keratoacanthoma	
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Note: [ KERATOACANTHMA ] TGLs = 1-13

Spleen		Depletion Lymphoid	Mild
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Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 7-3

Stomach	Glandular, Mucosa	Dilatation	Minimal
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Forestomach

Leukemia Mononuclear

Testes	Interstit Cell	Hyperplasia	Minimal
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Leukemia Mononuclear

Thymus		Leukemia Mononuclear	
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Thyroid Gland	C Cell	Hyperplasia	Minimal
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Urinary Bladder		Calculus Micro Observation Only	Moderate
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Leukemia Mononuclear

Note: CALCUS MIC OBS TGLs = 18-9

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 152

TRT#: 3

SEX: Male

DAY ON TEST: 556

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870170

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Pancreas
Parathyroid Gland	Salivary Glands	Seminal Vesicle	Skin
Thyroid Gland	Trachea		

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Pigmentation	Minimal
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: ECTASIA	TGLs = 10-8		
Note: LEUKEMIA MONUC	TGLs = 10-8		
Note: LEUKEMIA MONUC	TGLs = 8-9		
Note: LEUKEMIA MONUC	TGLs = 9-9		
Mammary Gland		Hyperplasia	Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
	Pars Distalis	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 152	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 556
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870170

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Leukemia Mononuclear	
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
Thymus		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 153

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870167

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex  
Epididymis  
Intestine Small - Ileum  
Seminal Vesicle  
Urinary Bladder

Bone  
Esophagus  
Intestine Small - Jejunum  
Skin

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Stomach - Forestomach

Brain  
Intestine Small - Duodenum  
Parathyroid Gland  
Trachea

MISSING

Thymus

OBSERVATIONS

Adrenal Gland  
Note: PHEOCHROM BGN TGLs = 5-8

Medulla

Pheochromocytoma Benign

Heart  
Intestine Large

Cecum  
Colon

Cardiomyopathy  
Parasite Metazoan  
Parasite Metazoan

Mild  
Minimal  
Mild

Kidney

Leukemia Mononuclear  
Nephropathy

Moderate

Liver

Basophilic Focus  
Degeneration  
Eosinophilic Focus

Mild

Bile Duct

Hyperplasia  
Leukemia Mononuclear

Minimal

Note: LEUKEMIA MONUC TGLs = 6-3  
Lung

Alveolar/Bronchiolar Adenoma  
Leukemia Mononuclear

Artery

Mineralization

Minimal

Note: ALV BRON ADEN TGLs = 9-1  
Lymph Node

Mesenteric, Sinus  
Mesenteric

Ectasia  
Infiltration Cellular

Moderate  
Histiocyte, Minimal

Note: ECTASIA TGLs = 4-7.1

Mammary Gland  
Nose

Hyperplasia  
Inflammation

Mild  
Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 153

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870167

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy Leukemia Mononuclear	Minimal
Pituitary Gland Preputial Gland	Pars Distalis	Adenoma Adenoma Inflammation	Multiple Chronic Active, Marked
[ Adenoma TGLS = 2-10 ] [ Inflammation TGLS = 2-10 ]			
Prostate		Inflammation	Chronic Active, Moderate
Salivary Glands	Duct, Submandibul GI Duct, Submandibul GI	Inflammation Metaplasia	Chronic Active, Minimal Squamous, Minimal
Spleen		Depletion Lymphoid Fibrosis Leukemia Mononuclear	Mild Minimal
Note: FIBROSIS TGLs = 3-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ADENOMA TGLs = 7-6			
Thyroid Gland	Follicular Cel	Cyst	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 154

TRT#: 3

SEX: Male

DAY ON TEST: 141

DOSE: 10,000 PPM MALE

DISP: Dead

HISTO: 850237

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Coagulating Gland	Epididymis
Esophagus	Nose	Parathyroid Gland	Preputial Gland
Salivary Glands	Seminal Vesicle	Skin	

**AUTO PRECLUDES DIAG.**

Islets, Pancreatic

**OBSERVATIONS**

Adrenal Gland	Cortex	Autolysis	Mild
	Medulla	Autolysis	Mild
Brain		Autolysis	Mild
Note: [ AUTOLYSIS ] TGLs = 18-5			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Autolysis	Marked
	Colon	Autolysis	Marked
	Rectum	Autolysis	Marked
Intestine Small	Duodenum	Autolysis	Marked
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Marked
Note: [ AUTOLYSIS ] TGLs = 6-7			
Note: [ AUTOLYSIS ] TGLs = 7-7			
Kidney		Autolysis	Marked
Note: [ AUTOLYSIS ] TGLs = 16,17-4			
Liver		Autolysis	Moderate
		Hepatodiaphragmatic Nodule	
Note: [ HDN ] TGLs = 13-3			
Note: [ AUTOLYSIS ] TGLs = 10,11,12-3			
Lung		Autolysis	Mild
Lymph Node	Mandibular	Autolysis	Mild
	Mesenteric	Autolysis	Marked
Mammary Gland		Hyperplasia	Mild
Pancreas		Autolysis	Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 154

TRT#: 3

SEX: Male

DAY ON TEST: 141

DOSE: 10,000 PPM MALE

DISP: Dead

HISTO: 850237

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland		Autolysis	Mild
Prostate		Autolysis	Mild
Spleen		Autolysis	Mild
		Depletion Lymphoid	Mild
Stomach	Forestomach	Autolysis	Moderate
	Glandular	Autolysis	Moderate
Note: [ AUTOLYSIS ]	TGLs = 5-7		
Note: [ AUTOLYSIS ]	TGLs = 5-7		
Testes		Autolysis	Mild
Thymus		Autolysis	Moderate
Thyroid Gland		Autolysis	Marked
Trachea		Autolysis	Marked
Urinary Bladder		Autolysis	Marked
Note: [ AUTOLYSIS ]	TGLs = 14-9		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 155

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870168

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Pituitary Gland	Prostate	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Mild
		Nephropathy	Moderate
Liver		Degeneration	Minimal
	Bile Duct	Hyperplasia	Minimal
		Mixed Cell Focus	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Mild
Pancreas		Inflammation	Chronic Active, Minimal
Parathyroid Gland		Hyperplasia	Minimal
Note: HYPERPLASIA	TGLs = 6-8		
Preputial Gland		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 3,4-6		
[ Atrophy TGLS = 5-6 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 155

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870168

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 156

TRT#: 3

SEX: Male

DAY ON TEST: 697

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870172

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Prostate	Seminal Vesicle	Skin	Stomach - Forestomach
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	Multiple
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Leukemia Mononuclear	
		Nephropathy	Marked
Note: [ NEPHROPATHY ] TGLs = 5-4			
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3 ]			
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Galactocele	Moderate
		Hyperplasia	Moderate
[ Galactocele TGLS = 2-13+13.1 ]			
[ Hyperplasia TGLS = 2-13+13.1 ]			
Mesentery		Fibrosis	Marked
		Inflammation	Chronic Active, Mild
		Leukemia Mononuclear	
		Necrosis	Liquifactive, Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 156

TRT#: 3

SEX: Male

DAY ON TEST: 697

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870172

ORGAN AND ACCOUNTABLE SITE STATUS

Note: [ INFLAMMATION ] TGLs = 3-14  
[ Fibrosis TGLS = 3-14 ]  
[ Leukemia Mononuclear TGLS = 3-14 ]  
[ Necrosis TGLS = 3-14 ]

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy Leukemia Mononuclear	Minimal

Note: [ ATROPHY ] TGLs = 10-9

Parathyroid Gland		Hyperplasia	Moderate
Pituitary Gland	Pars Distalis Pars Distalis	Adenoma Leukemia Mononuclear	

Note: [ ADENOMA ] TGLs = 6-8

Preputial Gland		Inflammation	Chronic Active, Mild
		Leukemia Mononuclear	

Salivary Glands	Duct, Submandibul GI Submandibul GI	Hyperplasia Inflammation	Mild Chronic Active, Minimal
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Spleen		Depletion Lymphoid Leukemia Mononuclear	Moderate
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Note: [ LEUKEMIA MONUC ] TGLs = 8-3

Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell Interstit Cell	Adenoma Hyperplasia	Minimal

Note: [ ADENOMA ] TGLs = 9-6

Thymus		Cyst Leukemia Mononuclear	Minimal
Thyroid Gland		Carcinoma	

Note: [ CARCINOMA ] TGLs = 7-8

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 157

TRT#: 3

SEX: Male

DAY ON TEST: 715

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870171

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Prostate
Salivary Glands	Stomach - Glandular	Trachea	

INSUFFICIENT TISSUE

Stomach - Forestomach

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
	Medulla	Pheochromocytoma Malignant	
Note: [ PHEOCHROM BGN ] TGLs = 6-8+8.1			
Brain			
Note: FOCAL MINERALIZATION WAS NOTED IN A SMALL ARTERIOLE			
Note: IN THE CHOROID PLEXUS, PROBABLY SECONDARY TO HYPER-			
Note: CALCEMIA AND UREMIA.			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Polyarteritis	Moderate
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Marked
Note: [ NEPHROPATHY ] TGLs = 5-4			
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: [ LEUKEMIA MONUC ] TGLs = 7,8-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 157	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 715
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870171

ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Leukemia Mononuclear	
Parathyroid Gland		Hyperplasia	Mild
Note: [ HYPERPLASIA ] TGLs = 11-8			
Pituitary Gland	Pars Distalis	Cyst	Moderate
	Pars Distalis	Hyperplasia	Mild
	Pars Distalis	Leukemia Mononuclear	
Note: [ CYST ] TGLs = 9-8			
Preputial Gland		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Skin		Keratoacanthoma	
Note: [ KERATOACANTHMA ] TGLs = 2-13			
Spleen		Depletion Lymphoid	Moderate
		Fibrosis	Mild
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 4-3+3.1 [ Depletion Lymphoid TGLS = 12-3+3.1 ]			
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
Note: [ ADENOMA ] TGLs = 13-6 [ Atrophy TGLS = 3-6 ]			
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Inflammation	Chronic Active, Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 158

TRT#: 3

SEX: Male

DAY ON TEST: 695

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870173

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Prostate	Salivary Glands
Skin	Trachea	Urinary Bladder	

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	Multiple
	Cortex	Vacuolization Cytoplasmic	Mild
Epididymis		Mesothelioma Malignant	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney	Renal Tubule	Adenoma	
		Mesothelioma Malignant	
		Nephropathy	Marked
Note: [ MESOTHELIO MAL ]			
Note: NEPHROPATHY			
Liver		Degeneration	Minimal
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Mesothelioma Malignant	Metastatic (Uncertain Primary Site)
Note: LEUKEMIA MONUC			
Note: [ MESOTHELIO MAL ]			
Note: HEPATOCLR CARC			
Lung		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 158

TRT#: 3

SEX: Male

DAY ON TEST: 695

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870173

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC	TGLs = 12-1+2			
Lymph Node		Mesenteric	Infiltration Cellular	Histiocyte, Minimal
		Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 19-8			
Mesentery			Mesothelioma Malignant	
Note: [ MESOTHELIO MAL ]	TGLs = 25-7.1+13			
Nose			Leukemia Mononuclear	
Pancreas			Mesothelioma Malignant	
Note: [ MESOTHELIO MAL ]	TGLs = 7-7+9.1			
Pituitary Gland		Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 13-8			
Preputial Gland			Inflammation	Chronic Active, Mild
Seminal Vesicle			Atrophy	Moderate
Spleen			Depletion Lymphoid	Moderate
			Fibrosis	Mild
			Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-3.2			
Stomach		Glandular, Mucosa	Dilatation	Mild
		Forestomach	Hyperkeratosis	Minimal
		Forestomach	Hyperplasia	Squamous, Mild
		Forestomach	Inflammation	Chronic Active, Mild
		Glandular	Inflammation	Chronic Active, Minimal
		Forestomach	Mesothelioma Malignant	
		Forestomach	Ulcer	Marked
Note: [ MESOTHELIO MAL ]	TGLs = 21-7.1			
Note: ULCER	TGLs = 22-7			
Testes		Interstit Cell	Adenoma	
		Seminif Tub	Atrophy	Marked
			Mesothelioma Malignant	
		Seminif Tub	Mineralization	Minimal
Note: [ MESOTHELIO MAL ]	TGLs = 3,18-6+6.1			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 158	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 695
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870173

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2-6 ]			
Thymus		Ectopic Parathyroid Gland Leukemia Mononuclear	
Note: THYMUS.			
Note: A PARATHYROID GLAND WAS NOTED IMBEDDED WITHIN THE			
Thyroid Gland	C Cell Follicular Cel	Hyperplasia Hyperplasia	Minimal Minimal
Tissue NOS		Mesothelioma Malignant	
Note: [ MESOTHELIO MAL ] TGLs = 20-14			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 159

TRT#: 3

SEX: Male

DAY ON TEST: 594

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870174

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Eye	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Prostate	Skin	Stomach - Forestomach
Trachea			

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Minimal
Brain		Infarct	Mild
		Leukemia Mononuclear	
Note: INFARCT	TGLs = 9,10,11-5+5.1		
Note: LEUKEMIA MONUC	TGLs = 9,10,11-5+5.1		
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Fibrosis	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-1+1.1+2		
Note: FIBROSIS	TGLs = 8-1.1		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 14-8		
Nose	Respirat Epith	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 159

TRT#: 3

SEX: Male

DAY ON TEST: 594

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870174

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Leukemia Mononuclear Atrophy	Mild
Pituitary Gland	Pars Distalis Pars Distalis	Leukemia Mononuclear Hyperplasia	Minimal
Preputial Gland		Leukemia Mononuclear Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Seminal Vesicle		Leukemia Mononuclear Atrophy	Mild
Spleen		Depletion Lymphoid Leukemia Mononuclear	Marked
Note: LEUKEMIA MONUC	TGLs = 6-3.1		
Stomach	Glandular, Mucosa Glandular	Dilatation Leukemia Mononuclear	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Interstit Cell	Adenoma Atrophy Hyperplasia Leukemia Mononuclear	Moderate Minimal
Note: ADENOMA	TGLs = 5-6		
Thymus		Leukemia Mononuclear	
Thyroid Gland	Follicular Cel	Hyperplasia Leukemia Mononuclear	Minimal
Urinary Bladder		Calculus Gross Observation	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 160

TRT#: 3

SEX: Male

DAY ON TEST: 456

DOSE: 10,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853131

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Intestine Large - Cecum  
Intestine Small - Jejunum

Intestine Large - Colon  
Stomach - Forestomach

Intestine Large - Rectum  
Stomach - Glandular

Intestine Small - Duodenum

OBSERVATIONS

Intestine Small  
Lung

Epithelium, Ileum

Pigmentation  
Hemorrhage

Minimal  
Minimal

Note: HEMORRHAGE TGLs = 5-1

Note: MINOR HEMORRHAGE IN THE LUNG IS PROBABLY A HANDLING

Note: ARTEFACT AT NECROPSY.

Lymph Node

Mesenteric, Sinus  
Mesenteric  
Mediastinal  
Mediastinal

Ectasia  
Hemorrhage  
Infiltration Cellular  
Pigmentation

Mild  
Minimal  
Histiocyte, Minimal  
Minimal

Note: ECTASIA TGLs = 8-7.1

Note: HEMORRHAGE TGLs = 8-7.1

[ Infiltration Cellular TGLS = 4-2 ]

Testes

Interstit Cell  
Seminif Tub  
Interstit Cell  
Seminif Tub

Adenoma  
Atrophy  
Hyperplasia  
Mineralization

Marked  
Minimal  
Minimal

[ Mineralization TGLS = 2-6 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 161

TRT#: 3

SEX: Male

DAY ON TEST: 467

DOSE: 10,000 PPM MALE

DISP: Dead

HISTO: 870175

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Pancreas	Parathyroid Gland
Pituitary Gland	Prostate	Salivary Glands	Seminal Vesicle
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Testes	Thymus	Trachea	

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
Lung		Alveolar/Bronchiolar Adenoma	
Note: ALV BRON ADEN TGLs = 11-1.1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mesentery		Fibrosis	Moderate
		Inflammation	Chronic Active, Mild
		Necrosis	Liquifactive, Moderate
Note: INFLAMMATION TGLs = 3-14			
[ Fibrosis TGLS = 3-14 ]			
[ Necrosis TGLS = 3-14 ]			
Preputial Gland		Adenocarcinoma	
		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION TGLs = 13-10			
[ Adenocarcinoma TGLS = 2-13 ]			
Thyroid Gland	C Cell	Adenoma	
Urinary Bladder		Calculus Micro Observation Only	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 161

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 467

**DOSE:** 10,000 PPM MALE

**DISP:** Dead

**HISTO:** 870175

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 162

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870177

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Prostate
Seminal Vesicle	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Liver		Degeneration	Mild
	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Minimal
		Mixed Cell Focus	
Note: HDN TGLs = 6-3.1			
Lung	Bronchiole, Epithelium	Hyperplasia	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 7-8			
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Mild
	Submandibul GI	Necrosis	Coagulative, Minimal
Skin	Subcut Tiss	Schwannoma Malignant	
Note: [ SCHWANNOMA MAL ] TGLs = 4-13			
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 162	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 730
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 870177
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Note: ADENOMA Thyroid Gland	TGLs = 2,3-6	Interstit Cell C Cell Follicular Cel	Hyperplasia Hyperplasia Hyperplasia
			Minimal Mild Mild
<b>PRIMARY CAUSE OF DEATH</b>	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 163

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 199

**DOSE:** 10,000 PPM MALE

**DISP:** Moribund

**HISTO:** 852076

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Coagulating Gland	Epididymis	Esophagus
Heart	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Kidney	Liver	Mammary Gland	Pancreas
Parathyroid Gland	Prostate	Seminal Vesicle	Skin
Spleen	Stomach - Glandular	Testes	Thyroid Gland
Tongue	Trachea	Urinary Bladder	

**OBSERVATIONS**

Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Nose		Inflammation	Chronic Active, Marked
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Lamina Propria	Inflammation	Chronic Active, Minimal
Thymus		Depletion Lymphoid	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 164

TRT#: 3

SEX: Male

DAY ON TEST: 464

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870178

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Heart	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Preputial Gland	Prostate
Salivary Glands	Seminal Vesicle	Testes	Trachea

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Moderate
Kidney		Abscess	Mild
		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 11-3 [ Leukemia Mononuclear TGLS = 11-3 ]			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Axillary	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-13 Note: LEUKEMIA MONUC TGLs = 10-9.1 Note: LEUKEMIA MONUC TGLs = 13-2			
Mesentery		Fibrosis	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 164	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 464
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870178

ORGAN AND ACCOUNTABLE SITE STATUS

		Leukemia Mononuclear Necrosis	Liquifactive, Marked
Note: LEUKEMIA MONUC	TGLs = 6-8.1		
Note: NECROSIS	TGLs = 6,8-8.1+9		
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Minimal
Note: THE WHITE FOCI OBSERVED IN THE PANCREAS ARE FOCI			
Note: OF LIQUEFACTIVE NECROSIS AFFECTING THE MESENTERY.			
Note: MESENTERY.			
Note: THE LATTER LESION HAS ALREADY BEEN LOGGED IN UNDER			
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Skin	Subcut Tiss	Leukemia Mononuclear	
	Subcut Tiss	Necrosis	Liquifactive, Minimal
Note: COLONIES IN THE AREA BUT NO ACUTE INFLAMMATION.			
Note: SUBCUTANEOUS TISSUES OF THE TAIL THERE WERE BACTERIAL			
Note: IN ADDITION TO THE MARKED CONGESTION NOTED IN THE			
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-3 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Glandular	Fibrosis	Mild
	Glandular	Hemorrhage	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Glandular	Necrosis	Coagulative, Mild
	Epithelium, Glandular	Pigmentation	Mild
	Forestomach	Ulcer	Mild
Note: PIGMENT	TGLs = 15-7.1		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 164	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 464
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870178

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thymus		Leukemia Mononuclear	
Note: THE THYMUS IS OBSCURED BY LEUKEMIA.			
Note: SINCE THE ARCHITECTURE OF THE ORGAN WHICH COULD BE			
Note: IT IS NOT ENTIRELY CLEAR THAT THE THYMUS IS PRESENT			
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 165

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870176

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Parathyroid Gland	Pituitary Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Islets, Pancreatic		Hyperplasia	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Note: [ NEPHROPATHY ] TGLs = 4-4			
Liver		Basophilic Focus	
		Degeneration	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	
Note: [ MIXED CL FOCUS ] TGLs = 6-3.1			
Lung		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 5-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 165

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 870176

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: [ ADENOMA ] TGLs = 3-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 166

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870180

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
Brain	Meninges	Granular Cell Tumor Benign	
Note: GRANULAR CELL TUMOR IN THE MENINGES.			
Note: A PAS STAIN WAS REQUESTED TO HELP FIRM UP THE POSSIBLE			
Note: SUPPORTING THE DIAGNOSIS OF A GRANULAR CELL TUMOR.			
Note: THE PAS STAIN ON THE BRAIN TUMOR WAS POSITIVE,			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Angiectasis	Minimal
		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: HDN	TGLs = 2-3.1		
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 4-8		
Preputial Gland		Adenoma	
		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 166

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870180

ORGAN AND ACCOUNTABLE SITE STATUS

Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Mild
Note: ATROPHY	TGLs = 6-6		
Spleen		Hyperplasia	Lymphoid, Mild
		Infiltration Cellular	Histiocyte, Mild
		Leukemia Mononuclear	

Note: BY NODULES OF HISTIOCYTES.  
 Note: OF AN EARLY MONONUCLEAR CELL LEUKEMIA WITH A FEW  
 Note: CHANGES IN THE SPLEEN AND LIVER APPEAR TO BE THOSE  
 Note: SPLEEN APPEAR TO BE ENLARGED AND ARE ALSO INFILTRATED  
 Note: NEOPLASTIC CELLS IN THE RED PULP OF THE SPLEEN AND  
 Note: HYPERPLASIA TGLs = 3,5-3  
 Note: LIVER SINUSOIDS. SOME OF THE LYMPHOID NODULES IN THE

Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Seminif Tub	Mineralization	Minimal

Note: ADENOMA TGLs = 8-6

Thyroid Gland	C Cell	Adenoma	
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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 167

TRT#: 3

SEX: Male

DAY ON TEST: 682

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870182

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Mild
Note: [ CARDIOMYOPATHY ] TGLs = 16-2			
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: [ NEPHROPATHY ] TGLs = 13-4			
Liver	Bile Duct	Hyperplasia	Mild
		Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 19,20-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Note: [ INFILTRAT CELL ] TGLs = 18-1			
Note: [ LEUKEMIA MONUC ] TGLs = 17-1+2			
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 12-8.1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 167

TRT#: 3

SEX: Male

DAY ON TEST: 682

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870182

ORGAN AND ACCOUNTABLE SITE STATUS

Note: [ LEUKEMIA MONUC ] TGLs = 9-8

Note: [ LEUKEMIA MONUC ] TGLs = 7-9

Note: [ ECTASIA ] TGLs = 9-7.1

[ Leukemia Mononuclear TGLS = 14-2 ]

[ Leukemia Mononuclear TGLS = 2-9 ]

Mammary Gland

Hyperplasia

Mild

Nose

Inflammation

Chronic Active, Moderate

Metaplasia

Squamous, Mild

Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED

Note: IN THE LUMEN OF THE NOSE.

Pancreas

Vacuolization Cytoplasmic

Mild

Pituitary Gland

Pars Distalis

Leukemia Mononuclear

Preputial Gland

Inflammation

Chronic Active, Minimal

Prostate

Inflammation

Chronic Active, Minimal

Seminal Vesicle

Atrophy

Moderate

Note: [ ATROPHY ] TGLs = 4-6

Spleen

Depletion Lymphoid

Marked

Fibrosis

Minimal

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 5-3.1+3.2

Stomach

Glandular, Mucosa

Dilatation

Mild

Testes

Interstit Cell

Adenoma

Seminif Tub

Atrophy

Moderate

Interstit Cell

Hyperplasia

Minimal

Seminif Tub

Mineralization

Minimal

Note: [ ADENOMA ] TGLs = 3-6

[ Adenoma TGLS = 3-6 ]

Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 168

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870179

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Islets, Pancreatic	Parathyroid Gland	Preputial Gland
Prostate	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Brain		Astrocytoma Malignant	
Note: A GLIAL TUMOR, MOST LIKELY AN ASTROCYTOMA.			
Note: THE TUMOR ARISING IN THE CEREBELLUM APPEARS TO BE			
Heart		Cardiomyopathy	Moderate
Intestine Small	Jejunum	Sarcoma	
Note: THE NODULE ARISING IN THE SMALL INTESTINE WAS NOT			
Note: WHICH PORTION OF THE BOWEL WAS INVOLVED.			
Note: WELL PRESERVED AND THE TRIMMER DID NOT INDICATE			
Note: [ SARCOMA ] TGLs = 14-7.2			
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Mild
Liver	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 7,8,10-3.1 ]			
[ Leukemia Mononuclear TGLS = 6-3+3.1 ]			
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Mild
	Mucosa	Ulcer	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 168

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870179

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy Inflammation	Minimal Chronic Active, Minimal
Pituitary Gland Note: ADENOMA TGLs = 12-8	Pars Distalis	Adenoma	
Salivary Glands	Duct, Submandibul GI Submandibul GI	Hyperplasia Inflammation	Minimal Chronic Active, Minimal
Seminal Vesicle [ Atrophy TGLS = 13-6 ]		Atrophy	Moderate
Skin [ Lipoma TGLS = 2-13+13.1 ]	Subcut Tiss	Lipoma	
Spleen [ Leukemia Mononuclear TGLS = 5-3 ]		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ADENOMA TGLs = 3-6 [ Atrophy TGLS = 4-6 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 169	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 459
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853132

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Small - Duodenum	Intestine Small - Jejunum	Stomach - Forestomach
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**OBSERVATIONS**

Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Intestine Small	Ileum, Peyers Patch	Hyperplasia	Mild
Liver		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: PIGMENT	TGLs = 3-7.1		
Stomach	Epithelium, Glandular	Pigmentation	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 170

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870181

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Pituitary Gland
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 5,6-4		
Liver		Basophilic Focus	
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: AND THE RED PULP OF THE SPLEEN.			
Note: THIS LOOKS LIKE A STAGE 1 MONONUCLEAR CELL LEUKEMIA			
Note: WITH A FEW MONONUCLEAR CELLS IN LIVER SINUSOIDS			
Lung		Alveolar/Bronchiolar Adenoma	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Moderate
	Mucosa	Ulcer	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY	TGLs = 10-6		
Skin		Squamous Cell Papilloma	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 170	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 730
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 870181

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: PAPILLOMA SQUA TGLs = 2-13+13.1+13.2

Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA TGLs = 3,4-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 171

TRT#: 3

SEX: Male

DAY ON TEST: 687

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870184

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Seminal Vesicle	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

INSUFFICIENT TISSUE

Thymus

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 7-4		
Liver		Fatty Change	Minimal
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Pigmentation	Minimal
Note: [ HEPATOCLR ADEN ]	TGLs = 13-3		
Note: LEUKEMIA MONUC	TGLs = 8-3		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 10-1+2		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 11-9		
	[ Infiltration Cellular TGLS = 12-9 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 171	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 687
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870184

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 9-8.1		
Preputial Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION	TGLs = 3-10		
Prostate		Inflammation	Chronic Active, Marked
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-3.1		
Testes	Interstit Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 172	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853133

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Stomach - Forestomach	Stomach - Glandular

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**OBSERVATIONS**

Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: ECTASIA      TGLs = 8-7.1			
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA      TGLs = 2-6			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 173

TRT#: 3

SEX: Male

DAY ON TEST: 653

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870185

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Pancreas	Parathyroid Gland	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-3		
Note: FATTY CHANGE	TGLs = 7-3		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 11-1+1.1+2		
Lymph Node	Mandibular, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: ECTASIA	TGLs = 9-9		
Note: LEUKEMIA MONUC	TGLs = 9-9		
Note: LEUKEMIA MONUC	TGLs = 6-7.1+8		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 173

TRT#: 3

SEX: Male

DAY ON TEST: 653

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870185

ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
	Pars Distalis	Leukemia Mononuclear	
Preputial Gland	Duct	Dilatation	Moderate
		Inflammation	Chronic Active, Minimal
[ Dilatation TGLS = 3-10.1 ]			
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Skin		Keratoacanthoma	
Note: [ KERATOACANTHMA ] TGLs = 2-13			
Spleen		Depletion Lymphoid	Moderate
		Fibrosis	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-3+3.1			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA TGLs = 4-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 174

TRT#: 3

SEX: Male

DAY ON TEST: 532

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870186

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Eye
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Pancreas
Parathyroid Gland	Salivary Glands	Seminal Vesicle	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	Urinary Bladder

INSUFFICIENT TISSUE

Thymus

OBSERVATIONS

Heart		Cardiomyopathy	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Alveolar/Bronchiolar Adenoma	
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-1+2+2.1		
Note: ALV BRON ADEN	TGLs = 5-2.1		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-9		
Note: LEUKEMIA MONUC	TGLs = 11-7.1+8		
Note: LEUKEMIA MONUC	TGLs = 10-2		
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Mild
Pituitary Gland	Pars Distalis	Adenoma	Multiple
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 174

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 532

**DOSE:** 10,000 PPM MALE

**DISP:** Moribund

**HISTO:** 870186

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Prostate		Inflammation	Chronic Active, Moderate
Spleen		Depletion Lymphoid Leukemia Mononuclear	Moderate
Note: LEUKEMIA MONUC	TGLs = 8-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Hyperplasia	Minimal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 175

TRT#: 3

SEX: Male

DAY ON TEST: 715

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870183

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Pituitary Gland
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Intestine Small	Ileum	Fibrosis	Mild
Kidney	Transit Epithe	Hyperplasia	Mild
		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 5-4			
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	
Note: MIXED CL FOCUS TGLs = 13-3			
Lung		Foreign Body	Minimal
		Inflammation	Chronic Active, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: ECTASIA TGLs = 4-8			
Note: LEUKEMIA MONUC TGLs = 12-9.1			
[ Infiltration Cellular TGLs = 11-9 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 175

TRT#: 3

SEX: Male

DAY ON TEST: 715

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870183

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland		Hyperplasia	Minimal
Nose	Lumen	Foreign Body Inflammation Metaplasia	Mild Chronic Active, Marked Squamous, Mild
Note: CROSS SECTIONS OF PLANT MATERIAL SURROUNDED BY Note: NEUTROPHILS WERE NOTED IN THE LUMEN OF THE NOSE.			
Pancreas	Acinus	Atrophy Polyarteritis	Minimal Moderate
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6,10-3.1			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ADENOMA TGLs = 3-6 [ Atrophy TGLS = 2-6 ]			
Thyroid Gland	C Cell	Adenoma	
Note: ADENOMA TGLs = 8-8			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 176

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 870187

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Heart		Cardiomyopathy	Moderate
Kidney		Nephropathy	Mild
Liver		Degeneration	Minimal
Lung	Alveolar Epith	Hyperplasia	Marked
Note: [ HYPERPLASIA ] TGLs = 8-1.1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-8			
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate	Epithelium	Hyperplasia	Minimal
Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA TGLs = 2-6			
Thyroid Gland	Follicular Cel	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 177

TRT#: 3

SEX: Male

DAY ON TEST: 539

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870190

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Prostate	Seminal Vesicle	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Note: LEUKEMIA MONUC TGLs = 7-4			
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8,10-3+3.1			
Note: FATTY CHANGE TGLs = 10-3+3.1			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
	Pars Distalis	Leukemia Mononuclear	
	Pars Intermed	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 177	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 539
	<b>DOSE:</b> 10,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 870190

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Preputial Gland Note: INFLAMMATION TGLs = 4-6		Inflammation	Chronic Active, Mild
Salivary Glands Spleen	Submandibul GI	Leukemia Mononuclear Depletion Lymphoid Leukemia Mononuclear	Moderate
Note: LEUKEMIA MONUC TGLs = 6-3.2			
Stomach Testes	Glandular, Mucosa Interstit Cell Seminif Tub Interstit Cell Seminif Tub	Dilatation Adenoma Atrophy Hyperplasia Mineralization	Minimal Mild Minimal Minimal
Note: ATROPHY TGLs = 4-6 [ Adenoma TGLS = 5-6 ]			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 178

TRT#: 3

SEX: Male

DAY ON TEST: 722

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870188

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Eye	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Prostate	Salivary Glands	Seminal Vesicle	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	Multiple
Note: PHEOCHROM BGN TGLs = 8-8			
Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 9-4			
Liver		Basophilic Focus	
		Eosinophilic Focus	
		Hepatocellular Adenoma	Multiple
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ HEPATOCLR ADEN ] TGLs = 10-3			
Note: [ EOSIN FOCUS ] TGLs = 11-3.1			
Note: LEUKEMIA MONUC TGLs = 14-3+3.1			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-9.1			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Moderate
		Metaplasia	Squamous, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 178

TRT#: 3

SEX: Male

DAY ON TEST: 722

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870188

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: IN THE LUMEN OF THE NOSE.

Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED

Pancreas		Vacuolization Cytoplasmic	Minimal
Parathyroid Gland		Adenoma	
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-3.1			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal

Note: ADENOMA TGLs = 4,5-6

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 179

TRT#: 3

SEX: Male

DAY ON TEST: 456

DOSE: 10,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853134

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Intestine Large - Cecum  
Liver

Intestine Large - Rectum  
Seminal Vesicle

Intestine Small - Duodenum  
Stomach - Forestomach

Intestine Small - Jejunum

**OBSERVATIONS**

Intestine Large

Colon

Parasite Metazoan

Minimal

Intestine Small

Epithelium, Ileum

Pigmentation

Minimal

Note: PIGMENT TGLs = 7-7

Lung

Artery

Mineralization

Minimal

Lymph Node

Mediastinal

Hemorrhage

Moderate

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mesenteric

Pigmentation

Minimal

Note: HEMORRHAGE TGLs = 5-2

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA TGLs = 10-8

Stomach

Epithelium, Glandular

Pigmentation

Minimal

Note: PIGMENT TGLs = 9-7

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 180

TRT#: 3

SEX: Male

DAY ON TEST: 612

DOSE: 10,000 PPM MALE

DISP: Moribund

HISTO: 870189

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Eye
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Mammary Gland

OBSERVATIONS

Adrenal GI

Note: A RECUT OF THE ADRENAL WAS MADE TO TRY AND CLARIFY  
 Note: HOWEVER, THE RECUT WAS NOT ANY BETTER THAN THE ORIGINAL.  
 Note: THE POSSIBLE HYPERPLASIA OF THE ADRENAL MEDULLA;

Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia Inflammation	Minimal Chronic Active, Minimal

Note: THE PARENCHYMA OF THE LIVER.  
 Note: SMALL NODULES OF HISTIOCYTES WERE NOTED THROUGHOUT

Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 7-8.1		
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Marked
Salivary Glands	Duct, Submandibul GI Submandibul GI	Hyperplasia Inflammation	Minimal Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 180

**TRT#:** 3  
**DOSE:** 10,000 PPM MALE

**SEX:** Male  
**DISP:** Moribund

**DAY ON TEST:** 612  
**HISTO:** 870189

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Mild
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal

Note: ADENOMA TGLs = 4-6

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PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 181

TRT#: 4

SEX: Male

DAY ON TEST: 633

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862793

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Islets, Pancreatic	Pancreas	Parathyroid Gland
Salivary Glands	Seminal Vesicle	Stomach - Forestomach	Thyroid Gland
Trachea			

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Minimal
Brain			
Note: HANDLING AT NECROPSY.			
Note: MINOR HEMORRHAGES IN THE BRAIN MAY BE RELATED TO			
Eye		Cataract	Moderate
Note: THIS COULD BE A HANDLING ARTEFACT.			
Note: CATARACT TGLs = 2-13			
Note: THE RETINA IS MISSING FROM THE CATARACTOUS EYE.			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Note: HOWEVER, THIS IS NOT CONSIDERED TO BE AN ABNORMAL			
Note: FINDING IN A ANIMAL WHICH DIES.			
Note: THE RIGHT ATRIUM OF THE HEART WAS FILLED WITH BLOOD;			
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Moderate
	Rectum	Autolysis	Moderate
	Cecum	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-7.1			
Intestine Small	Duodenum	Autolysis	Mild
	Jejunum	Autolysis	Marked
	Ileum	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 181

TRT#: 4

SEX: Male

DAY ON TEST: 633

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862793

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC Kidney	TGLs = 8-7.2		Autolysis Leukemia Mononuclear Nephropathy	Moderate Mild
Note: LEUKEMIA MONUC Liver	TGLs = 11-4	Bile Duct	Hyperplasia Leukemia Mononuclear	Minimal
Note: LEUKEMIA MONUC Lung	TGLs = 12-3		Leukemia Mononuclear	
Note: LEUKEMIA MONUC Lymph Node	TGLs = 14-1+2	Mandibular Mesenteric	Leukemia Mononuclear Leukemia Mononuclear	
Note: LEUKEMIA MONUC Nose	TGLs = 10-8		Inflammation	Chronic Active, Mild
Note: LEUKEMIA MONUC Pituitary Gland	TGLs = 4-9	Pars Distalis	Adenoma	
Note: ADENOMA Preputial Gland	TGLs = 15-8		Inflammation Inflammation Leukemia Mononuclear Squamous Cell Papilloma	Chronic Active, Minimal Chronic Active, Marked
Note: PAPHILLOMA SQUA Spleen	TGLs = 3-14.1		Leukemia Mononuclear	
Note: LEUKEMIA MONUC Stomach	TGLs = 7-3.1	Glandular, Mucosa	Dilatation	Minimal
Testes		Interstit Cell Interstit Cell	Adenoma Hyperplasia Leukemia Mononuclear	Minimal
Thymus				
Note: LEUKEMIA MONUC Urinary Bladder	TGLs = 13-2		Calculus Gross Observation Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 181

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 633

**DOSE:** 50,000 PPM MALE

**DISP:** Dead

**HISTO:** 862793

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: SECTION EVALUATED.

Note: THE TRIMMER OBSERVED A CALCUS IN THE GROSS SPECIMEN

Note: HOWEVER, IT WAS NOT VISIBLE IN THE MICROSCOPIC

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 182

TRT#: 4

SEX: Male

DAY ON TEST: 521

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862795

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Nose
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Spleen	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Marked
	Colon	Parasite Metazoan	Minimal
	Cecum	Ulcer	Marked

Note: WAS ASSOCIATED WITH COMPACTED HAIR IN THE CECUM

Note: (A TRICOBEOZOAR).

Note: THE MARKED ULCERATION AND INFLAMMATION IN THE CECUM

Note: [ HYPERPLASIA ] TGLs = 5-7.2+7.7

Note: [ INFLAMMATION ] TGLs = 5-7.1+7.6+7.7

Note: [ ULCER ] TGLs = 5-7.1+7.6+7.7

Kidney		Nephropathy	Minimal
Liver		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Inflammation	Chronic Active, Mild

Note: [ ECTASIA ] TGLs = 4-8+8.1

Note: [ INFLAMMATION ] TGLs = 4-8+8.1

Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 182	<b>TRT#:</b> 4	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 521
	<b>DOSE:</b> 50,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862795

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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Prostate		Inflammation	Chronic Active, Moderate
Seminal Vesicle		Atrophy	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Inflammation	Chronic Active, Minimal
Note: [ HYPERKERATOSIS ] TGLs = 8,9-7			
Note: [ HYPERPLASIA ] TGLs = 8,9-7			
Testes	Interstit Cell	Hyperplasia	Minimal

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 183

TRT#: 4

SEX: Male

DAY ON TEST: 673

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862792

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Seminal Vesicle	Skin
Stomach - Forestomach	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Moderate
Bone Marrow	Sternal	Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
Intestine Small	Duodenum	Leukemia Mononuclear	
	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Degeneration	Mild
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ DEGEN ]	TGLs = 11-3		
Note: LEUKEMIA MONUC	TGLs = 7-3		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8,9,13-1+1.1+2		
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Bronchial	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 12-9		
Note: LEUKEMIA MONUC	TGLs = 5,6-7.1+7.2+7.3+7.4+8		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 183

TRT#: 4

SEX: Male

DAY ON TEST: 673

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862792

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 3-7.6

Note: LEUKEMIA MONUC TGLs = 16-2

Mammary Gland

Nose

Hyperplasia

Inflammation

Metaplasia

Mild

Chronic Active, Marked

Squamous, Mild

Note: PHILS.

Note: THERE WERE NUMEROUS FUNGAL MYCELIA IN THE NOSE

Note: PROBABLY ASPERGILLUS SPECIES, SURROUNDED BY NEUTRO-

Pancreas

Leukemia Mononuclear

Vacuolization Cytoplasmic

Minimal

Pituitary Gland

Pars Distalis

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 10-8

Preputial Gland

Inflammation

Chronic Active, Mild

Prostate

Inflammation

Chronic Active, Moderate

Spleen

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 4-3.1

Stomach

Glandular

Leukemia Mononuclear

Epithelium, Glandular

Pigmentation

Minimal

Note: PIGMENT TGLs = 14-7.5

Note: BENEATH THE GLANDS OF THE FORESTOMACH THERE APPEARS TO

Note: BE A HYALINIZED ZONE.

Note: LEUKEMIA MONUC TGLs = 15-7+7.5

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Interstit Cell

Hyperplasia

Minimal

Note: ADENOMA TGLs = 2-6

Thymus

Leukemia Mononuclear

Note: OBLITERATED BY THE LYMPHOMA.

Note: THE ARCHITECTURE OF THE THYMUS WAS TOTALLY

Thyroid Gland

C Cell

Adenoma

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 184

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862791

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Pancreas	Parathyroid Gland	Pituitary Gland	Skin
Spleen	Stomach - Forestomach	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Medulla	Angiectasis	Mild
	Medulla	Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: [ HYPERPLASIA ] TGLs = 3-7.1			
Note: INFLAMMATION TGLs = 3-7.2			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Note: ECTASIA TGLs = 4-7.1+7.2			
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Mild
		Inflammation	Chronic Active, Marked
		Necrosis	Liquifactive, Mild

Note: WERE PORTIONS OF THE MESENTERY WHICH WERE CHRONICALLY

Note: ADHERENT TO THE SURFACE OF THE STOMACH AND LIVER

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 184

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862791

ORGAN AND ACCOUNTABLE SITE STATUS

Note: INFLAMMED AND SHOWED FOCAL AREAS OF LIQUEFACTIVE  
 Note: AND/OR COAGULATIVE NECROSIS. ENMESHED IN THIS OMENTUM  
 Note: WERE PIECES OF LIVER, PANCREAS, AND A VARIETY OF  
 Note: INFLAMMATORY CELLS INCLUDING HISTIOCYTES WITH AND  
 Note: WITHOUT PIGMENT, MULTINUCLEATE GIANT CELLS, LYMPH-  
 Note: INFLAMMATION TGLs = 6-13+13.1  
 Note: NECROSIS TGLs = 6-13+13.1  
 Note: OCYTES AND OCCASIONAL NEUTROPHILS.

Nose		Inflammation	Chronic Active, Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Mild
	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Note: SEE NOTE UNDER MESENTERY.		
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Note: ADENOMA TGLs = 2-6		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 185

TRT#: 4

SEX: Male

DAY ON TEST: 615

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862794

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Pituitary Gland	Prostate	Salivary Glands
Skin	Trachea		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Necrosis	Coagulative, Minimal
	Medulla	Necrosis	Coagulative, Minimal
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Mild
Bone Marrow	Sternal	Leukemia Mononuclear	
		Leukemia Mononuclear	
Brain			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum	Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
		Leukemia Mononuclear	
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Leukemia Mononuclear	
Lung			
		Leukemia Mononuclear	
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 185

TRT#: 4

SEX: Male

DAY ON TEST: 615

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862794

ORGAN AND ACCOUNTABLE SITE STATUS

	Mesenteric	Leukemia Mononuclear	
Note: [ ECTASIA ] TGLs = 7-7.3			
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Seminal Vesicle		Atrophy	Mild
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 2-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Ulcer	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
		Autolysis	Moderate
	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 186

TRT#: 4

SEX: Male

DAY ON TEST: 400

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862798

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Ear	Epididymis	Esophagus	Eye
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Salivary Glands	Seminal Vesicle
Skin	Thymus	Thyroid Gland	Trachea

MISSING

Parathyroid Gland	Urinary Bladder
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OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Moderate
Eye			
Note: AND THE ONLY ABNORMALITY NOTED WAS MINIMAL CHRONIC			
Note: INFLAMMATION IN THE LACRIMAL GLAND.			
Note: ONLY ONE EYE WAS AVAILABLE FOR HISTOLOGIC EVALUATION			
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Multiple, Marked
	Colon	Ulcer	Marked
Note: ULCER TGLs = 7,10-7.2+7.4			
Note: INFLAMMATION TGLs = 7,10-7.2+7.4			
Note: ULCER TGLs = 8-7			
Note: HYPERPLASIA TGLs = 7,10-7.1+7.2+7.3			
Kidney		Nephropathy	Mild
Lacrimal Gland		Inflammation	Chronic, Minimal
Note: INFLAMMATION TGLs = 3-13			
Liver		Leukemia Mononuclear	
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 186

TRT#: 4

SEX: Male

DAY ON TEST: 400

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862798

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: ECTASIA	TGLs = 9-7.1+8.1		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION	TGLs = 4-12		
Pituitary Gland		Cyst	Minimal
	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Spleen		Leukemia Mononuclear	
Stomach		Dilatation	Minimal
	Glandular, Mucosa	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Inflammation	Chronic Active, Minimal
Testes		Hyperplasia	Minimal
Interstit Cell			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 187

TRT#: 4

SEX: Male

DAY ON TEST: 487

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862797

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla

Bone

Bone Marrow

Epididymis

Esophagus

Islets, Pancreatic

Parathyroid Gland

Salivary Glands

Skin

Spleen

Stomach - Forestomach

OBSERVATIONS

Adrenal Gland

Cortex

Vacuolization Cytoplasmic

Minimal

Brain

Autolysis

Mild

Note: AUTOLYSIS TGLs = 11-5

Heart

Cardiomyopathy

Moderate

Intestine Large

Cecum

Autolysis

Marked

Colon

Autolysis

Marked

Rectum

Autolysis

Marked

Note: AUTOLYSIS TGLs = 8-7+7.1

Note: AUTOLYSIS AFFECTING THE LARGE BOWEL IS SO MARKED IT

Note: IS IMPOSSIBLE TO PROPERLY INTERPRETE THE SECTIONS.

Note: AUTOLYSIS TGLs = 7-7

Intestine Small

Duodenum

Autolysis

Marked

Ileum

Autolysis

Marked

Jejunum

Autolysis

Mild

Note: AUTOLYSIS AFFECTING THE SMALL BOWEL IS ALSO VERY

Note: SEVERE MAKING INTERPRETATION IMPOSSIBLE.

Note: AUTOLYSIS TGLs = 6-7

Kidney

Autolysis

Moderate

Nephropathy

Mild

Liver

Basophilic Focus

Bile Duct

Hyperplasia

Minimal

Lung

Autolysis

Mild

Metaplasia

Osseous, Minimal

Artery

Mineralization

Minimal

Lymph Node

Mesenteric, Sinus

Ectasia

Moderate

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 187

TRT#: 4

SEX: Male

DAY ON TEST: 487

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862797

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: ECTASIA	TGLs = 9-8			
Mammary Gland			Hyperplasia	Mild
Nose		Mucosa	Inflammation	Chronic Active, Mild
			Metaplasia	Squamous, Mild
		Mucosa	Ulcer	Mild
Pancreas			Autolysis	Mild
Pituitary Gland		Pars Distalis	Autolysis	Moderate
Preputial Gland			Inflammation	Chronic Active, Mild
Note: INFLAMMATION	TGLs = 3-10			
Prostate			Autolysis	Mild
Seminal Vesicle			Autolysis	Mild
Stomach		Glandular	Autolysis	Mild
Testes		Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 4,5-6			
Thymus			Autolysis	Minimal
Thyroid Gland			Autolysis	Moderate
Note: AUTOLYSIS	TGLs = 10-8			
Trachea			Autolysis	Moderate
Urinary Bladder			Autolysis	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 188

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853095

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Nose	Pancreas	Parathyroid Gland
Pituitary Gland	Seminal Vesicle	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thyroid Gland	Trachea

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum, Lamina Propria	Inflammation	Chronic, Minimal
	Cecum, Epithelium	Pigmentation	Minimal
	Epithelium, Rectum	Pigmentation	Minimal
Note: THE LAMINA PROPRIA OF THE CEACUM APPEARS TO HAVE SLIGHTLY			
Note: THE RECTUM AND COLON DO NOT APPEAR TO BE AFFECTED.			
Note: INCREASED NUMBERS OF MONONUCLEAR CELLS IN IT.			
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
Note: ECTASIA	TGLs = 2-8		
Mammary Gland		Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic, Minimal
Prostate		Inflammation	Acute, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal
Testes	Interstit Cell	Hyperplasia	Mild
Thymus		Depletion Lymphoid	Minimal
Urinary Bladder		Calculus Micro Observation Only	Mild
Note: CALCUS MIC OBS	TGLs = 3-9		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 189

TRT#: 4

SEX: Male

DAY ON TEST: 367

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 852077

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Islets, Pancreatic	Kidney	Nose	Pancreas
Prostate	Salivary Glands	Skin	Spinal Cord
Stomach - Glandular	Testes	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Intestine Small - Jejunum	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Moderate
Esophagus		Hyperkeratosis	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Moderate
	Colon	Ulcer	Marked
Note: INFLAMMATION TGLs = 8-7			
Note: ULCER TGLs = 9-7.2			
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Inflammation	Chronic Active, Mild
Note: ECTASIA TGLs = 6-8			
Note: INFLAMMATION TGLs = 6-8			
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Spleen		Depletion Lymphoid	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 189	<b>TRT#:</b> 4	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 367
	<b>DOSE:</b> 50,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 852077

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Forestomach	Hyperkeratosis	Marked
	Forestomach	Hyperplasia	Squamous, Marked
	Forestomach	Inflammation	Chronic Active, Mild
Note: [ HYPERPLASIA ]	TGLs = 11,12-7.1		
Note: INFLAMMATION	TGLs = 11,12-7.1		
Note: HYPERKERATOSIS	TGLs = 11,12-7.1		
Thymus		Depletion Lymphoid	Moderate

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 190

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862796

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Prostate	Salivary Glands	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex Medulla	Angiectasis Hyperplasia	Minimal Mild
Heart		Cardiomyopathy Leukemia Mononuclear	Mild
Intest Small			
Note: TO BE A NORMAL VARIATION.			
Note: WITHIN THE WALL OF THE DUODENUM. THIS IS CONSIDERED			
Note: A HISTOLOGICALLY NORMAL PIECE OF PANCREAS WAS NOTED			
Intestine Large	Cecum Cecum, Lamina Propria, Submucosa Cecum	Hyperplasia Inflammation Ulcer	Glandular, Minimal Chronic Active, Minimal Mild
Note: [ ULCER ] TGLs = 7-7.2			
Note: [ INFLAMMATION ] TGLs = 7-7.2			
Kidney		Nephropathy	Mild
Liver	Bile Duct	Degeneration Hyperplasia Leukemia Mononuclear Leukemia Mononuclear	Minimal Minimal
Lung			
Note: [ LEUKEMIA MONUC ] TGLs = 9-1+2			
Lymph Node	Mesenteric, Sinus Mesenteric	Ectasia Infiltration Cellular	Moderate Histiocyte, Minimal
Note: [ ECTASIA ] TGLs = 8-7.1+8			
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 190

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862796

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy	Minimal
	Acinus	Hyperplasia	Mild
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Skin		Basal Cell Adenoma	
[ Basal Cell Adenoma TGLS = 3-10 ]			
Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 6-3			
Note: [ FIBROSIS ] TGLs = 6-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
Note: [ ATROPHY ] TGLs = 4-6			
Note: [ ADENOMA ] TGLs = 5-6			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 191

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853097

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla

Bone

Bone Marrow

Brain

Epididymis

Esophagus

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Jejunum

Islets, Pancreatic

Mammary Gland

Parathyroid Gland

Salivary Glands

Seminal Vesicle

Spleen

Stomach - Forestomach

Thymus

Thyroid Gland

Trachea

Urinary Bladder

OBSERVATIONS

Adrenal Gland

Cortex

Hyperplasia

Minimal

Heart

Cardiomyopathy

Mild

Intestine Large

Cecum

Hyperplasia

Glandular, Moderate

Cecum, Lamina Propria, Submucosa

Inflammation

Chronic Active, Moderate

Cecum

Ulcer

Minimal

Note: INFLAMMATION TGLs = 14-7.1+7.2+7.3

Note: THE FIRMNESS PALPABLE IN THE TISSUES ADJACENT TO THE

Note: IN A FOCAL AREA OF THE CECUM ADJACENT TO THE FOCI OF SUB-

Note: MUCOSAL EPITHELIAL PROLIFERATION THERE WERE LARGE

Note: NUMBERS OF MAST CELLS.

Note: TISSUE, APPARENTLY PROSTATE.

Note: GLANDS (COWPER'S GLANDS) AND SOME OTHER GLANDULAR

Note: RECTUM WAS APPARENTLY RELATED TO THE BULBOURETHRAL

Intestine Small

Epithelium, Ileum

Pigmentation

Minimal

Note: TANGLES OF ROD-LIKE BACTERIA WERE VISIBLE ON THE

Note: MUCOSAL SURFACE OF THE ILEUM.

Note: PIGMENT TGLs = 5-7+8

Kidney

Nephropathy

Minimal

Liver

Inflammation

Chronic Active, Minimal

Lung

Artery

Mineralization

Minimal

Lymph Node

Mesenteric, Sinus

Ectasia

Marked

Pancreatic

Hemorrhage

Minimal

Note: HEMORRHAGE TGLs = 2,3-9.1

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 191	<b>TRT#:</b> 4	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 50,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853097

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Mucosa, Submucosa	Inflammation Metaplasia	Chronic Active, Mild Squamous, Mild
Pancreas		Atrophy Inflammation	Mild Chronic, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic, Minimal
Prostate		Inflammation	Chronic Active, Mild
Skin	Subcut Tiss	Hemangioma	
Note: HEMANGIOMA TGLs = 10-13			
Stomach	Glandular, Muscularis Epithelium, Glandular	Developmental Malformation Pigmentation	Mild Minimal
Note: DEVELOP MALFOR TGLs = 12-7			
Note: MISSING AND MAY ACCOUNT FOR THE LESION OBSERVED AT			
Note: EPITHELIAL SURFACE OF THE FORESTOMACH.			
Note: GREAT NUMBERS OF ROD-LIKE BACTERIA WERE VISIBLE ON THE			
Note: TRIMMING.			
Note: A SEGMENT OF THE MUSCULARIS EXTERNA OF THE STOMACH WAS			
Note: PIGMENT TGLs = 11-7			
Testes	Interstit Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 192

TRT#: 4

SEX: Male

DAY ON TEST: 669

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862800

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Jejunum	Parathyroid Gland	Skin	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	Multiple
	Cortex	Vacuolization Cytoplasmic	Mild
Note: [ PHEOCHROM BGN ] TGLs = 11-8			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
	Cecum	Leukemia Mononuclear	
Note: [ INFLAMMATION ] TGLs = 15-7.1			
Note: [ HYPERPLASIA ] TGLs = 15-7.1			
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: [ PIGMENT ] TGLs = 13-7			
Note: FILAMENTOUS BACTERIA, AS PREVIOUSLY NOTED IN THE 15			
Note: MONTH STUDY WERE NOTED ON THE SURFACE OF THE ILEUM.			
Islets, Pancreatic		Adenoma	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Note: [ LEUKEMIA MONUC ] TGLs = 16-4			
Liver	Bile Duct	Hyperplasia	Mild
		Hyperplasia	Mild
		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 9-3			
Note: THE NODULE OBSERVED IN THE LIVER APPEARS TO BE A			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 192

TRT#: 4

SEX: Male

DAY ON TEST: 669

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862800

ORGAN AND ACCOUNTABLE SITE STATUS

Note: NODULE OF HYPERPLASIA RATHER THAN A NEOPLASTIC NODULE.

Note: [ HYPERPLASIA ] TGLs = 8,10-3

Note: HYPERPLASIA IN THIS LIVER.

Note: NODULES OF HYPERPLASIA IN THE LIVER CAN BE ASSOCIATED

Note: IN THIS CASE, SINCE I MUST ACCOUNT FOR THE NODULE.

Note: HYPERPLASIA; HOWEVER, IT APPEARS TO BE APPROPRIATE

Note: BEEN USING THE TERM HYPERPLASIA FOR HEPATOCYTE

Note: STARTED BEFORE AUGUST 1, 1985, I GENERALLY HAVE NOT

Note: WITH MONONUCLEAR CELL LEUKEMIA. SINCE THIS STUDY WAS

Note: IN RETROSPECT, THERE IS MORE THAN ONE NODULE OF

Lung

Leukemia Mononuclear  
Mineralization

Minimal

Note: [ LEUKEMIA MONUC ] TGLs = 6,7-1+2

Lymph Node

Artery  
Mesenteric, Sinus  
Mesenteric  
Mediastinal  
Mesenteric

Ectasia  
Infiltration Cellular  
Leukemia Mononuclear  
Leukemia Mononuclear

Mild  
Histiocyte, Minimal

Note: [ LEUKEMIA MONUC ] TGLs = 4-8+13

Note: [ LEUKEMIA MONUC ] TGLs = 5-3

Note: [ ECTASIA ] TGLs = 4-8+7.1+7.2

Mammary Gland

Hyperplasia  
Inflammation  
Atrophy  
Vacuolization Cytoplasmic

Mild  
Chronic Active, Minimal  
Minimal  
Minimal

Nose

Pancreas

Acinus

Pituitary Gland

Pars Distalis

Adenoma  
Leukemia Mononuclear

Chronic Active, Minimal  
Chronic Active, Mild

Preputial Gland

Prostate

Salivary Glands

Seminal Vesicle

Spleen

Duct, Submandibul GI

Inflammation  
Inflammation  
Hyperplasia  
Atrophy  
Fibrosis

Minimal  
Mild  
Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 192	<b>TRT#:</b> 4	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 669
	<b>DOSE:</b> 50,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862800

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: [ LEUKEMIA MONUC ] TGLs = 3-3.1		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Glandular	Leukemia Mononuclear	
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal
Note: [ ADENOMA ] TGLs = 2-6			
Thymus		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 193

TRT#: 4

SEX: Male

DAY ON TEST: 569

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862801

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Parathyroid Gland	Pituitary Gland	Salivary Glands
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder		

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Hematopoietic Cell Proliferation	Minimal
Coagulating Gland		Atrophy	Minimal
Note: ATROPHY	TGLs = 9-6		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Epithelium, Rectum	Pigmentation	Minimal
	Cecum	Ulcer	Moderate
Note: PROLIFERATION	TGLs = 10-7.1+7.2		
Note: ULCER	TGLs = 10-7.1+7.2		
Note: INFLAMMATION	TGLs = 10-7.1+7.2		
Note: [ HYPERPLASIA ]	TGLs = 10-7.1+7.2		
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA	TGLs = 7-8		
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Preputial Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 193

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 569

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 862801

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: ADENOMA	TGLs = 3-10		Inflammation	Chronic Active, Minimal
Prostate			Inflammation	Chronic Active, Mild
Seminal Vesicle			Atrophy	Moderate
Note: ATROPHY	TGLs = 8-6			
Skin		Subcut Tiss	Fibroma	
Note: FIBROMA	TGLs = 2-13+13.1			
Testes		Bilateral, Interstit Cell	Adenoma	
		Seminif Tub	Atrophy	Marked
		Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 4,5-6			
Thyroid Gland			Pigmentation	Minimal
PRIMARY CAUSE OF DEATH		-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 194

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862799

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Nose	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Minimal
Note: HYPERPLASIA TGLs = 5-7.2			
Note: INFLAMMATION TGLs = 5-7.2			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 4,6-7.1+7.2+8			
Mammary Gland		Hyperplasia	Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION TGLs = 8-10			
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 194

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862799

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular, Mucosa

Dilatation

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Note: ADENOMA TGLs = 2,3-6

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PRIMARY CAUSE OF DEATH

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 195

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853096

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Pancreas	Parathyroid Gland	Preputial Gland	Seminal Vesicle
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea		

OBSERVATIONS

Epididymis		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Erosion	Minimal
	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Minimal
Note: INFLAMMATION	TGLs = 2-7.1+7.2		
Note: HYPERPLASIA	TGLs = 2-7.1+7.2		
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: NUMBERS OF FILAMENTOUS BACTERIA. THE FILAMENTOUS RODS			
Note: WERE ARRANGED SINGLY AND IN TANGLES.			
Note: VISIBLE ON THE SURFACE OF THE ILEUM WERE LARGE			
Kidney		Nephropathy	Mild
Liver		Clear Cell Focus	
	Bile Duct	Hyperplasia	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: ECTASIA	TGLs = 1-8		
Mammary Gland		Hyperplasia	Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
Prostate		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 195

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 456

**DOSE:** 50,000 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853096

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Salivary Glands

Duct, Submandibul GI

Dilatation

Mild

Skin

Subcut Tiss

Hemorrhage

Minimal

Note: HEMORRHAGE      TGLs = 4-10

Testes

Interstit Cell

Hyperplasia

Mild

Urinary Bladder

Inflammation

Chronic, Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 196

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862802

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Prostate	Skin	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Coagulating Gland		Atrophy	Moderate
Note: [ ATROPHY ] TGLs = 11-6			
Epididymis		Mesothelioma Malignant	
Note: [ MESOTHELIO MAL ] TGLs = 9-6+6.1			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Mild
Note: [ HYPERPLASIA ] TGLs = 13-7.1+7.3			
Note: [ ULCER ] TGLs = 13-7.1			
Note: [ INFLAMMATION ] TGLs = 13-7.1+7.3			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
		Hepatocellular Adenoma	Multiple
		Leukemia Mononuclear	
Note: [ HEPATOCLR ADEN ] TGLs = 5-3.1			
Note: [ LEUKEMIA MONUC ] TGLs = 4-3+3.1			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: [ ECTASIA ] TGLs = 6-7.1			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 196

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862802

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: [ HYPERPLASIA ] TGLs = 8-8	Pars Distalis	Inflammation Hyperplasia	Chronic Active, Mild Marked
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle Note: [ ATROPHY ] TGLs = 10-6		Atrophy	Moderate
Spleen Note: CELL LEUKEMIA IN THE RED PULP. Note: THERE IS A STRONG SUGGESTION OF AN EARLY MONONUCLEAR Note: [ LEUKEMIA MONUC ] TGLs = 3-3		Leukemia Mononuclear	
Stomach  Note: [ HYPERKERATOSIS ] TGLs = 12-7.2 Note: [ HYPERPLASIA ] TGLs = 12-7.2	Glandular, Mucosa Forestomach Forestomach Forestomach	Dilatation Hyperkeratosis Hyperplasia Inflammation	Minimal Minimal Squamous, Minimal Chronic Active, Minimal
Testes  Note: [ ADENOMA ] TGLs = 2-6	Bilateral, Interstit Cell Seminif Tub	Adenoma Atrophy Mesothelioma Malignant	Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 197

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853099

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Pancreas	Parathyroid Gland	Pituitary Gland
Prostate	Salivary Glands	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Mild
Note: ULCER TGLs = 5-7.1+7.2			
Note: INFLAMMATION TGLs = 5-7.1+7.2			
Note: THE TISSUE WHICH LOOKED LIKE ENLARGED RECTAL MUSCLE			
Note: GLANDS.			
Note: TURNED OUT TO BE THE BULBOURETHRAL GLANDS OR COWPER'S			
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: PIGMENT TGLs = 3-7			
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mandibular	Hemorrhage	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: HEMORRHAGE TGLs = 8-9			
Note: ECTASIA TGLs = 6-7.3			
Mammary Gland		Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 197

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 456

**DOSE:** 50,000 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853099

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Preputial Gland

Inflammation

Chronic Active, Minimal

Stomach

Epithelium, Glandular

Pigmentation

Minimal

Testes

Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 198

TRT#: 4

SEX: Male

DAY ON TEST: 459

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853098

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Islets, Pancreatic	Lung
Nose	Parathyroid Gland	Salivary Glands	Seminal Vesicle
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Mild
Note: [ INFLAMMATION ] TGLs = 5-7.1+7.2			
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
	Epithelium, Jejunum	Pigmentation	Minimal
Kidney		Nephropathy	Minimal
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
Note: [ HDN ] TGLs = 3-3			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: [ ECTASIA ] TGLs = 7-7.2			
Mammary Gland		Hyperplasia	Mild
Pancreas		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Acute, Moderate
Testes	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	Follicle	Pigmentation	Minimal
Note: PIGMENT WERE NOTED WITHIN ONE ACINUS.			
Note: A SMALL CLUSTER OF MACROPHAGES CONTAINING AND OLIVE GREEN			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 198

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 459

**DOSE:** 50,000 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853098

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 199

TRT#: 4

SEX: Male

DAY ON TEST: 695

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862803

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Skin
Stomach - Forestomach	Thymus	Trachea	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	Multiple
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: [ PHEOCHROM BGN ] TGLs = 13-8			
Brain		Infarct	Mild
		Leukemia Mononuclear	
Note: [ INFARCT ] TGLs = 20-5+5.1			
Note: [ LEUKEMIA MONUC ] TGLs = 20-5+5.1			
Coagulating Gland		Atrophy	Moderate
Note: [ ATROPHY ] TGLs = 26-6			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum, Submucosa	Fatty Change	Marked
	Cecum	Hyperplasia	Glandular, Moderate
	Cecum	Leukemia Mononuclear	
	Cecum	Parasite Metazoan	Minimal
	Cecum	Ulcer	Mild
Note: [ FATTY CHANGE ] TGLs = 21,22-7.2			
Kidney		Autolysis	Mild
		Leukemia Mononuclear	
		Nephropathy	Mild
Note: INNER CORTEX. THE POSSIBILITY OF AUTOLYSIS MUST			
Note: OTHER ORGANS WERE OBSERVED TO BE AUTOLYZED.			
Note: ALTHOUGH THE NECROPSY WAS REPORTED TO BE FRESH.			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 199

TRT#: 4

SEX: Male

DAY ON TEST: 695

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862803

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: OF RENAL TUBULES IN THE ZONE BETWEEN THE OUTER AND  
Note: THERE APPEARED TO BE A ZONE OF NECROSIS/DEGENERATION  
Note: ALSO BE CONSIDERED SINCE THIS WAS A NATURAL DEATH;

Liver

Bile Duct

Fatty Change

Minimal

Hyperplasia

Minimal

Hyperplasia

Minimal

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 17-3+3.2

Lung

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 16-1+2.1

Lymph Node

Mesenteric, Sinus

Ectasia

Marked

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mandibular

Leukemia Mononuclear

Mediastinal

Leukemia Mononuclear

Pancreatic

Leukemia Mononuclear

Note: [ LEUKEMIA MONUC ] TGLs = 8-9

Note: [ ECTASIA ] TGLs = 11-8.1

Note: [ LEUKEMIA MONUC ] TGLs = 15-2

Note: [ LEUKEMIA MONUC ] TGLs = 3-9

Mammary Gland

Hyperplasia

Mild

Mesentery

Inflammation

Chronic Active, Mild

Necrosis

Liquifactive, Mild

Note: TGL 12 WAS LOGGED IN AS CECUM, IT WAS ACTUALLY A

Note: PIECE OF MESENTERY ATTACHED TO THE SEROSA OF THE

Note: CECUM.

Note: [ NECROSIS ] TGLs = 12,14-7.3

Note: [ INFLAMMATION ] TGLs = 12,14-7.3

Nose

Inflammation

Chronic Active, Minimal

Pancreas

Leukemia Mononuclear

Vacuolization Cytoplasmic

Minimal

Pituitary Gland

Pars Distalis

Cyst

Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 199

TRT#: 4

SEX: Male

DAY ON TEST: 695

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862803

ORGAN AND ACCOUNTABLE SITE STATUS

Pars Intermed

Leukemia Mononuclear

Pars Nervosa

Leukemia Mononuclear

Leukemia Mononuclear

Note: [ CYST ] TGLs = 18-8

Preputial Gland

Inflammation

Chronic Active, Minimal

Note: [ INFLAMMATION ] TGLs = 4-10

Prostate

Inflammation

Chronic Active, Mild

Leukemia Mononuclear

Salivary Glands

Duct, Submandibul GI

Hyperplasia

Minimal

Submandibul GI

Inflammation

Chronic Active, Minimal

Seminal Vesicle

Atrophy

Moderate

Note: [ ATROPHY ] TGLs = 7-6

Spleen

Depletion Lymphoid

Moderate

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 9-3+3.1 ]

Stomach

Glandular

Necrosis

Coagulative, Mild

Note: IN THE MUCOSA OF THE GLANDULAR STOMACH.

Note: MOST LIKELY IT WAS THE FOCUS OF COAGULATIVE NECROSIS

Note: THE TRIMMER DESCRIBED A BLACK FOCUS IN THE FORESTOMACH.

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Interstit Cell

Hyperplasia

Minimal

Note: [ ATROPHY ] TGLs = 6-6

Note: [ ADENOMA ] TGLs = 6-6

Thyroid Gland

C Cell

Hyperplasia

Minimal

Urinary Bladder

Leukemia Mononuclear

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 200

TRT#: 4

SEX: Male

DAY ON TEST: 682

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862084

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Tongue	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: [ PHEOCHROM BGN ] TGLs = 6-8			
Bone Marrow	Sternal	Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum	Parasite Metazoan	Minimal
	Epithelium, Rectum	Pigmentation	Minimal
Note: [ HYPERPLASIA ] TGLs = 11-7.1+7.2			
Note: [ PIGMENT ] TGLs = 14-7			
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Note: [ LEUKEMIA MONUC ] TGLs = 7-4			
Note: [ NEPHROPATHY ] TGLs = 7-4			
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Note: HISTIOCYTES WITHIN ALVEOLI WERE PIGMENT LADEN.			
Note: [ LEUKEMIA MONUC ] TGLs = 9,10-1+2			
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 200

TRT#: 4

SEX: Male

DAY ON TEST: 682

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862084

ORGAN AND ACCOUNTABLE SITE STATUS

Note: [ LEUKEMIA MONUC ] TGLs = 8-2

Note: [ LEUKEMIA MONUC ] TGLs = 4-8.1

[ Leukemia Mononuclear TGLS = 2-9 ]

Mammary Gland

Hyperplasia

Mild

Nose

Inflammation

Chronic Active, Minimal

Pancreas

Leukemia Mononuclear

Vacuolization Cytoplasmic

Mild

Pituitary Gland

Leukemia Mononuclear

Preputial Gland

Leukemia Mononuclear

Prostate

Inflammation

Chronic Active, Moderate

Leukemia Mononuclear

Seminal Vesicle

Atrophy

Moderate

Leukemia Mononuclear

Leukemia Mononuclear

Spleen

Note: [ LEUKEMIA MONUC ] TGLs = 3-3

Stomach

Glandular, Mucosa

Dilatation

Minimal

Glandular

Leukemia Mononuclear

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Moderate

Interstit Cell

Hyperplasia

Minimal

Seminif Tub

Mineralization

Minimal

Note: [ ADENOMA ] TGLs = 5-6

Thymus

Leukemia Mononuclear

Thyroid Gland

C Cell

Hyperplasia

Minimal

Leukemia Mononuclear

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 201

TRT#: 4

SEX: Male

DAY ON TEST: 610

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862807

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex

Adrenal Gland - Medulla

Bone

Brain

Epididymis

Esophagus

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Islets, Pancreatic

Lung

Parathyroid Gland

Salivary Glands

Skin

Trachea

Urinary Bladder

OBSERVATIONS

Bone Marrow

Sternal

Hypocellularity

Marked

Heart

Abscess

Mild

Cardiomyopathy

Mild

Intestine Large

Cecum

Hyperplasia

Glandular, Mild

Note: [ HYPERPLASIA ] TGLs = 16-7.2

Kidney

Abscess

Moderate

Transit Epithe

Hyperplasia

Minimal

Nephropathy

Mild

Note: ABSCESS TGLs = 8,9-4+4.1

Liver

Basophilic Focus

Bile Duct

Hyperplasia

Minimal

Leukemia Mononuclear

Necrosis

Coagulative, Mild

Note: HOWEVER, IN LIGHT OF ALL THE INFLAMMATORY REACTIONS IN  
Note: BACTERIAL INFECTION IN THE SPLEEN. AT FIRST AN EARLY  
Note: MONONUCLEAR CELL LEUKEMIA WAS CONSIDERED IN THE LIVER;  
Note: THE LIVER IS CONFUSING BECAUSE OF THE EXTENSIVE  
Note: NECROSIS TGLs = 10-3  
Note: THIS ANIMAL, A LEUKEMOID REACTION SEEMS MORE LIKELY.  
Note: IT APPEARS THIS ANIMAL WAS NOT ABLE TO MOUNT A GOOD  
Note: ALONG WITH THE NOTION OF A CONCOMMITTANT LEUKEMIA.  
Note: SOME KIND OF IMMUNOSUPPRESSION. THE LATTER MIGHT GO  
Note: INFLAMMATORY REACTION TO THE BACTERIA, WHICH SUGGESTS

Lymph Node

Mesenteric, Sinus

Ectasia

Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 201

TRT#: 4

SEX: Male

DAY ON TEST: 610

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862807

ORGAN AND ACCOUNTABLE SITE STATUS

Mandibular	Hyperplasia	Lymphoid, Marked
Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 7-8 Note: HYPERPLASIA TGLs = 14-9		
Mammary Gland	Hyperplasia	Minimal
Nose	Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Minimal
	Atrophy	Mild
	Cytoplasmic Alteration	Chronic Active, Minimal
	Inflammation	
Note: CYTOPLAS ALTER TGLs = 6-9		
Pituitary Gland	Pars Distalis	Mild
Preputial Gland	Hyperplasia	Chronic Active, Minimal
Prostate	Inflammation	Chronic Active, Mild
Seminal Vesicle	Inflammation	Moderate
Spleen	Atrophy	Moderate
	Abscess	Marked
	Bacterium	Mild
	Depletion Lymphoid	Moderate
	Fibrosis	
	Leukemia Mononuclear	
Note: ABSCESS TGLs = 3,4-3+3.1 [ Abscess TGLS = 3,4-3+3.1 ] [ Bacterium TGLS = 3,4-3+3.1 ]		
Stomach	Glandular, Mucosa	Minimal
	Forestomach	Mild
	Forestomach	Squamous, Moderate
Note: HYPERPLASIA TGLs = 15-7+7.3 Note: HYPERKERATOSIS TGLs = 15-7+7.3		
Testes	Bilateral, Interstit Cell	
	Seminif Tub	Marked
	Seminif Tub	Minimal
Note: ADENOMA TGLs = 5-6		
	Adenoma	
	Atrophy	
	Mineralization	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 201

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 610

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 862807

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Thymus

Cyst

Marked

Note: CYST TGLs = 12-2.1

Note: EPITHELIUM.

Note: WITH NECROTIC DEBRIS AND LINED BY A STRATIFIED

Note: WITHIN THE THYMUS WAS A LARGE CYSTIC STRUCTURE FILLED

Thyroid Gland

C Cell

Adenoma

Leukemia Mononuclear

---

PRIMARY CAUSE OF DEATH

-

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 202

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853100

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Parathyroid Gland	Prostate
Salivary Glands	Seminal Vesicle	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Mild
<p>Note: INFLAMMATION TGLs = 10-7.1+7.2</p> <p>Note: NOTED WITHIN AND ADJACENT TO THE ULCERS.</p> <p>Note: HYPERPLASTIC ISLANDS OF CECAL GLANDULAR TISSUE WERE</p> <p>Note: 1991 CONVERSION DISCREPANCY. ORIGINAL DIAGNOSIS SITE NOT SPECIFIED.</p>			
Kidney		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Alveolar Epith	Hyperplasia	Moderate
	Artery	Mineralization	Minimal
<p>Note: [ HYPERPLASIA ] TGLs = 8-1</p>			
Lymph Node	Mesenteric, Sinus	Ectasia	Multiple, Marked
<p>Note: ECTASIA TGLs = 9,11-7.1+7.2+8</p>			
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Mild
		Inflammation	Chronic Active, Mild
		Necrosis	Moderate
<p>Note: INFLAMMATION TGLs = 3-7</p> <p>Note: FIBROSIS TGLs = 3-7</p> <p>Note: NECROSIS TGLs = 3-7</p>			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 202	<b>TRT#:</b> 4	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 50,000 PPM MALE	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853100

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas Note: SMALL AGGREGATES OF MACROPHAGES LADEN WITH AND OLIVE- Note: GREEN PIGMENT WERE NOTED IN SEVERAL AREAS.		Pigmentation	Minimal
Pituitary Gland Pars Distalis		Hyperplasia	Mild
Preputial Gland Note: INFLAMMATION TGLs = 2-10		Inflammation	Chronic, Minimal
Stomach Note: PIGMENT TGLs = 12-7	Epithelium, Glandular	Pigmentation	Minimal
Testes Interstitial Cell		Hyperplasia	Mild
Thyroid Gland C Cell		Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH -

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 203

TRT#: 4

SEX: Male

DAY ON TEST: 711

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862806

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Eye	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Islets, Pancreatic	Parathyroid Gland	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Nose	Pituitary Gland		
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OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Mild
Coagulating Gland		Atrophy	Moderate
Note: [ ATROPHY ] TGLs = 14-6			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: [ HYPERPLASIA ] TGLs = 12-7.1			
Intestine Small	Jejunum	Autolysis	Moderate
	Epithelium, Ileum	Pigmentation	Minimal
Note: ILEUM WAS VERY SUBTLE.			
Note: [ PIGMENT ] TGLs = 16-7			
Note: OF THE ILEUM. PIGMENTATION IN THE EPITHELIUM OF THE			
Note: NUMEROUS BACTERIAL RODS WERE NOTED ALONG THE SURFACE			
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: [ NEPHROPATHY ] TGLs = 6-4			
Liver		Basophilic Focus	
		Necrosis	Coagulative, Minimal
Note: RARE SINGLE CELL LIVER NECROSIS WAS OBSERVED.			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: [ INFILTRAT CELL ] TGLs = 9-1+2			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 203

TRT#: 4

SEX: Male

DAY ON TEST: 711

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862806

**ORGAN AND ACCOUNTABLE SITE STATUS**

Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: [ ECTASIA ] TGLs = 8-8.1			
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
		Vacuolization Cytoplasmic	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Marked
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Note: [ ATROPHY ] TGLs = 13-6			
Spleen		Depletion Lymphoid	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
[ Adenoma TGLS = 4-6 ]			
[ Atrophy TGLS = 5-6 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 204

TRT#: 4

SEX: Male

DAY ON TEST: 492

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862808

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Islets, Pancreatic	Nose	Parathyroid Gland
Salivary Glands	Seminal Vesicle	Skin	Spleen
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Marked
<p>Note: ULCER TGLs = 6,12-7.1+7.4</p> <p>Note: ALONG SOME SEGMENTS OF THE CECUM CHRONIC ACTIVE INFLAM-</p> <p>Note: MATION EXTENDED FROM THE MUCOSA TO THE SEROSA.</p> <p>Note: THE AREAS OF ULCERATION WERE SEVERE WITH TOTAL DENUING</p> <p>Note: OF EPITHELIUM AND MARKED INFLAMMATION.</p> <p>Note: INFLAMMATION TGLs = 6,12-7.1+7.2+7.3+7.4+7.5</p>			
Intestine Small	Duodenum	Autolysis	Mild
	Ileum	Autolysis	Mild
	Jejunum	Autolysis	Mild
Kidney		Nephropathy	Minimal
Liver		Inflammation	Chronic Active, Minimal
<p>Note: THE FOCAL ACUTE INFLAMMATION IN THE LIVER LOOKS LIKE A</p> <p>Note: SMALL MICROABSCCESS.</p>			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
<p>Note: ECTASIA TGLs = 8-8.1</p>			
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 204	<b>TRT#:</b> 4	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 492
	<b>DOSE:</b> 50,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862808

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Stomach	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Moderate
Note: HYPERKERATOSIS TGLs = 10-7			
Note: [ HYPERPLASIA ] TGLs = 10-7			
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Minimal
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA TGLs = 3-6			
Thyroid Gland		Inflammation	Chronic Active, Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 205

TRT#: 4

SEX: Male

DAY ON TEST: 730

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862805

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Nose	Pancreas
Parathyroid Gland	Pituitary Gland	Prostate	Seminal Vesicle
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum	Ulcer	Minimal
Note: [ HYPERPLASIA ] TGLs = 8-7.2			
Kidney		Nephropathy	Mild
Note: NEPHROPATHY TGLs = 6-4			
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Note: ECTASIA TGLs = 7-7.1+7.2			
Mammary Gland		Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 2-10 ]			
Spleen		Fibrosis	Mild
Note: FIBROSIS TGLs = 4-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 205

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862805

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Seminif Tub

Mineralization

Minimal

Note: ADENOMA TGLs = 3-6

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 206

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853101

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Seminal Vesicle	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Minimal
Note: ULCER TGLs = 7-7.1			
Note: HYPERPLASIA TGLs = 7-7.1			
Note: INFLAMMATION TGLs = 7-7.1			
Kidney		Cyst	Minimal
		Nephropathy	Minimal
Note: CYST TGLs = 4-4			
Liver		Basophilic Focus	
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: ECTASIA TGLs = 2-8			
Mammary Gland		Hyperplasia	Mild
Nose	Nasopharynx Dct	Inflammation	Acute, Minimal
Pancreas		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 206

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 456

**DOSE:** 50,000 PPM MALE

**DISP:** Interval Sacrifice

**HISTO:** 853101

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Salivary Glands

Submandibul GI

Inflammation

Chronic, Mild

Testes

Interstit Cell

Hyperplasia

Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 207

TRT#: 4

SEX: Male

DAY ON TEST: 504

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862809

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Islets, Pancreatic
Liver	Nose	Pancreas	Parathyroid Gland
Preputial Gland	Salivary Glands	Skin	Stomach - Glandular
Testes	Thyroid Gland	Trachea	

MISSING

Eye	Thymus		
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OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Autolysis	Moderate
	Rectum	Autolysis	Mild
	Cecum	Inflammation	Chronic Active, Marked
	Cecum	Ulcer	Marked

Note: [ INFLAMMATION ] TGLs = 5,11-7.1+7.2+7.4

[ Autolysis TGLS = 5,11-7.1+7.2+7.4 ]

Intestine Small	Duodenum	Autolysis	Mild
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Mild
Kidney		Nephropathy	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Inflammation	Chronic Active, Mild

Note: [ ECTASIA ] TGLs = 6-8.1

Mammary Gland		Galactocele	Mild
		Hyperplasia	Moderate

Note: [ HYPERPLASIA ] TGLs = 2,3-10+13

Note: THE YELLOW PIGMENT NOTED IN THE SKIN WAS PROBABLY

Note: [ GALACTOCELE ] TGLs = 2,3-10+13

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 207

TRT#: 4

SEX: Male

DAY ON TEST: 504

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862809

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: RELATED TO THE UNDERLYING MAMMARY TISSUE.

Pituitary Gland

Pars Distalis

Adenoma

Pars Distalis

Cyst

Minimal

Note: [ ADENOMA ] TGLs = 8-8

Prostate

Inflammation

Chronic Active, Marked

Seminal Vesicle

Atrophy

Mild

Spleen

Depletion Lymphoid

Marked

Note: [ DEPLET LYMPH ] TGLs = 4-3

Stomach

Forestomach

Hyperkeratosis

Mild

Forestomach

Hyperplasia

Squamous, Mild

Note: [ HYPERPLASIA ] TGLs = 10-7

Note: [ HYPERKERATOSIS ] TGLs = 10-7

Urinary Bladder

Calculus Micro Observation Only

Moderate

Note: [ CALCUS MIC OBS ] TGLs = 9-9

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 208

TRT#: 4

SEX: Male

DAY ON TEST: 368

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 852078

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Lung	Parathyroid Gland	Preputial Gland	Prostate
Seminal Vesicle	Skin	Spinal Cord	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Mild
Esophagus		Hyperkeratosis	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
	Colon	Ulcer	Marked
Note: INFLAMMATION TGLs = 7-7			
Note: [ ULCER ] TGLs = 8-7.1			
Intestine Small	Ileum	Inflammation	Chronic Active, Minimal
Kidney	Transit Epithe	Hyperplasia	Mild
		Inflammation	Chronic, Minimal
Liver	Bile Duct	Hyperplasia	Mild
		Inflammation	Chronic Active, Mild
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Inflammation	Chronic Active, Marked
Note: [ INFLAMMATION ] TGLs = 5-8.1			
Note: ECTASIA TGLs = 5-8.1			
Mesentery		Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 6-7,7.1,7.2			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
Stomach	Forestomach	Hyperkeratosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

**ANIMAL ID:** 208

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 368

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 852078

**ORGAN AND ACCOUNTABLE SITE STATUS**

Forestomach  
Glandular, Muscularis, Submucosa  
Forestomach

Hyperplasia  
Inflammation  
Ulcer

Squamous, Marked  
Chronic Active, Minimal  
Marked

Note: HYPERKERATOSIS TGLs = 9,10-7.2

Note: INFLAMMATION TGLs = 9,10-7.2

Note: [ ULCER ] TGLs = 9,10-7.2

Testes Seminif Tub  
Thymus

Mineralization  
Depletion Lymphoid

Minimal  
Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 209

TRT#: 4

SEX: Male

DAY ON TEST: 270

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 852079

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Mammary Gland	Nose
Pancreas	Parathyroid Gland	Preputial Gland	Salivary Glands
Seminal Vesicle	Skin	Spinal Cord	Spleen
Stomach - Glandular	Testes	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Mild
Esophagus		Hyperkeratosis	Mild
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Mucosa	Ulcer	Marked
	Colon	Ulcer	Mild
Note: [ ULCER ] TGLs = 8-7.1			
Note: [ ULCER ] TGLs = 7-7.1			
Kidney		Nephropathy	Minimal
Liver		Fatty Change	Mild
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 9-8.1			
Note: ECTASIA TGLs = 9-8.1			
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Prostate		Inflammation	Chronic Active, Mild
Stomach	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Marked
	Forestomach, Submucosa	Inflammation	Chronic Active, Minimal
Note: HYPERPLASIA TGLs = 6-7			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 209

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 270

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 852079

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: INFLAMMATION TGLs = 6-7

Note: HYPERKERATOSIS TGLs = 10-7

Thymus

Depletion Lymphoid

Moderate

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 210

TRT#: 4

SEX: Male

DAY ON TEST: 404

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862810

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Eye	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lacrimal Gland
Nose	Pancreas	Preputial Gland	Skin
Spleen	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Mesentery	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Marked
	Cecum	Ulcer	Marked
	Colon	Ulcer	Moderate

Note: THE BULBOURETHRAL GLAND. IT IS ON SLIDE 14.

Note: THE AREA ADJACENT TO THE RECTUM PROBABLY REPRESENTS

Note: THE SMALL GLANDULAR TISSUE TAKEN BY THE PROSECTOR FROM

Note: INFLAMMATION TGLs = 5-7

Note: ULCER TGLs = 5-7

Note: [ HYPERPLASIA ] TGLs = 4,12-7.4

Note: INFLAMMATION TGLs = 4,12-7.1+7.2+7.4+7.5

[ Inflammation TGLS = 4,12-7.1+7.2+7.4+7.5 ]

Kidney		Nephropathy	Minimal
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Lacrimal GI

Note: PROSECTOR UNDER EYES MAY HAVE BEEN PORPHYRIN PIGMENT

Note: PIGMENTS IN ACINI. THE RED VISCOUS FLUID NOTED BY THE

Note: AT THE MEDIAL CANTHUS.

Note: THE LACRIMAL GLAND CONTAINED THE NORMAL BROWN PROPHYRIN

Liver		Inflammation	Chronic Active, Minimal
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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 210

TRT#: 4

SEX: Male

DAY ON TEST: 404

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862810

ORGAN AND ACCOUNTABLE SITE STATUS

Note: DIAGNOSED AS ACUTE INFLAMMATION.

Note: THERE WERE A FEW SMALL MICROABSCESSES IN THE LIVER

Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Inflammation	Chronic Active, Marked
	Note: ECTASIA TGLs = 7-7.4+7.5+8.1		
	Note: INFLAMMATION TGLs = 7-7.4+7.5+8.1		
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Stomach	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Marked
	Note: HYPERKERATOSIS TGLs = 9-7		
	Note: HYPERPLASIA TGLs = 9-7		
Testes	Interstit Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 211

TRT#: 4

SEX: Male

DAY ON TEST: 414

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862837

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Pancreas	Parathyroid Gland	Prostate	Salivary Glands
Skin	Spleen	Testes	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Intestine Large - Colon	Mammary Gland	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Marked
	Cecum	Ulcer	Marked
Note: ULCER	TGLs = 8-7.2+7.3+7.4		
Note: INFLAMMATION	TGLs = 8-7.2+7.3+7.4		
Kidney		Nephropathy	Mild
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
Note: FATTY CHANGE	TGLs = 6-3		
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Inflammation	Chronic Active, Marked
Note: ECTASIA	TGLs = 9-8.1		
Note: INFLAMMATION	TGLs = 9-8.1		
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
		Cyst	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 211

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 414

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 862837

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: TWO CYSTIC STRUCTURES WERE NOTED ADJACENT TO THE MORE

Note: GLAND. IT IS NOT CLEAR FROM WHICH ORGAN THE CYSTS AROSE.

Note: NORMAL APPEARING SEMINAL VESICLES AND COAGULATING

[ Cyst TGLS = 4-6.1 ]

Stomach

Glandular, Mucosa

Dilatation

Mild

Forestomach

Hyperkeratosis

Mild

Forestomach

Hyperplasia

Squamous, Moderate

Note: HYPERKERATOSIS TGLs = 11-7

Note: HYPERPLASIA TGLs = 11-7

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 212

TRT#: 4

SEX: Male

DAY ON TEST: 459

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853102

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Parathyroid Gland	Preputial Gland
Prostate	Seminal Vesicle	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thyroid Gland	Tongue
Trachea	Urinary Bladder		

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: HYPERPLASIA TGLs = 15-7.1+7.2			
Note: A FAINT YELLOW PIGMENT COULD BE SEEN IN A SKIP-LIKE			
Note: INFLAMMATION TGLs = 15-7.1+7.2			
Note: FASHION IN THE EPITHELIUM OF THE CECUM.			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
		Inflammation	Chronic Active, Minimal
Note: A RARE VERY SMALL CLUSTER OF HISTIOCYTES AND OTHER MONO-			
Note: NUCLEAR CELLS WAS NOTED IN THE LIVER.			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mediastinal	Hemorrhage	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: HEMORRHAGE TGLs = 8,9-2.1			
Note: ECTASIA TGLs = 4-7.1+7.2			
Mammary Gland		Hyperplasia	Mild
Mesentery	Artery	Hyperplasia	Moderate
	Perivascular	Inflammation	Chronic, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 212

TRT#: 4

SEX: Male

DAY ON TEST: 459

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853102

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: SURROUNDED BY SMALL NUMBERS OF MONONUCLEAR CELLS.

Note: CECUM.

Note: HYPERPLASIA TGLs = 2-7

Note: WITHIN THE MESENTERY WAS A SMALL CLUSTER OF ARTERIES

Note: WHICH APPEARED TO HAVE PROLIFERATED AND WERE

Note: THIS MAY BE RELATED TO THE INFLAMMATORY LESIONS IN THE

Pancreas		Atrophy	Minimal
		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic, Mild
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 3,13,14-6		
Thymus		Depletion Lymphoid	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 213

TRT#: 4

SEX: Male

DAY ON TEST: 730

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862811

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Salivary Glands	Seminal Vesicle
Skeletal Muscle	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	

**OBSERVATIONS**

Adrenal Gland	Medulla	Hyperplasia	Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: [ HYPERPLASIA ] TGLs = 3-7.1+7.2			
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
Note: [ HDN ] TGLs = 6-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: [ ECTASIA ] TGLs = 4-8.1			
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 213

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862811

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Interstit Cell  
Seminif Tub

Hyperplasia  
Mineralization

Minimal  
Minimal

Note: [ ADENOMA ] TGLs = 2-6

Urinary Bladder

Calculus Micro Observation Only

Mild

Note: [ CALCUS MIC OBS ] TGLs = 7-9

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 214

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862813

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
	Medulla	Pheochromocytoma Malignant	
Note: SEE TUMOR THROMBUS IN LUMEN OF BLOOD VESSELS OUTSIDE CAPSULE			
Note: PHEOCHROM BGN TGLs = 5-8			
Coagulating Gland		Atrophy	Moderate
Note: ATROPHY TGLs = 10-6			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
Note: HYPERPLASIA TGLs = 4-7.1+7.2			
Intestine Small	Ileum	Hyperplasia	Lymphoid, Mild
Kidney		Nephropathy	Mild
Liver		Eosinophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
Note: HDN TGLs = 6-3			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
[ Infiltration Cellular TGLs = 3-7.1+7.2 ]			
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Adenocarcinoma	
[ Adenocarcinoma TGLs = 2-10.1+10.2 ]			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 214

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862813

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY	TGLs = 9-6		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 8-6		

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 215

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862812

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Parathyroid Gland	Seminal Vesicle	Skin	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Mild
Note: ULCER TGLs = 7-7+7.3			
Note: HYPERPLASIA TGLs = 7-7.1			
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Marked
Note: NEPHROPATHY TGLs = 10-4			
Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
Note: HDN TGLs = 18-3.1			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mandibular	Hyperplasia	Plasma Cell, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: INFILTRAT CELL TGLs = 9-8			
Note: ECTASIA TGLs = 6-7.2+8			
Note: HYPERPLASIA TGLs = 14-9			
Mammary Gland		Hyperplasia	Moderate
Nose	Nasolacrim Dct	Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 215

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862812

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Nasolacrim Dct	Metaplasia	Squamous, Moderate
Pituitary Gland	Pars Distalis	Inflammation	Chronic Active, Minimal
Note: ADENOMA TGLs = 12-8		Adenoma	
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Note: INFLAMMATION TGLs = 4-6			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen		Fibrosis	Mild
Note: FIBROSIS TGLs = 5-3.1		Hyperplasia	Lymphoid, Marked
Note: HYPERPLASIA TGLs = 5-3.1			
Note: HYPERPLASIA.			
Note: OF FIBROSIS WITH AN ADJACENT AREA OF FOCAL LYMPHOID			
Note: THE NODULE IN THE SPLEEN CONSISTED OF A FOCAL AREA			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Squamous Cell Papilloma	
Note: PAPILOMA SQUA TGLs = 15-7.4			
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Minimal
	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 216

TRT#: 4

SEX: Male

DAY ON TEST: 676

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862814

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
Coagulating Gland		Atrophy	Mild
Note: ATROPHY TGLs = 8-6			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Epithelium, Rectum	Pigmentation	Minimal
	Cecum	Ulcer	Mild
Note: ULCER TGLs = 9,10-7.1+7.2			
Note: PIGMENT TGLs = 13-7+7.1			
Note: THE PIGMENTATION IN THE LARGE BOWEL IS VERY SUBTLE			
Note: HYPERPLASIA TGLs = 9,10-7.1+7.2+7.3			
Note: ARE THICKER, A VERY FAINT PIGMENTATION CAN BE SEEN.			
Note: AND DIFFICULT TO SEE. WHERE THE HISTOLOGIC SECTIONS			
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
		Squamous Cell Carcinoma	
Note: SQUAM CEL CARC TGLs = 2-2			
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 216

TRT#: 4

SEX: Male

DAY ON TEST: 676

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862814

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: ECTASIA Mammary Gland Nose	TGLs = 3,11-7.1+8.1		Hyperplasia Inflammation Metaplasia	Minimal Chronic Active, Marked Squamous, Mild
Note: VISIBLE IN THE LUMEN OF THE NOSE WERE NUMEROUS Note: NEUTROPHILS AND IN A FOCAL AREA FUNGAL MYCELIA.				
Pituitary Gland		Pars Distalis	Angiectasis	Minimal
Note: ANGIECTASIS Preputial Gland	TGLs = 4-8		Inflammation	Chronic Active, Mild
Note: INFLAMMATION Prostate	TGLs = 5-10		Inflammation	Chronic Active, Mild
Seminal Vesicle			Atrophy	Moderate
Note: ATROPHY Stomach	TGLs = 7-6	Glandular, Mucosa	Dilatation	Minimal
Testes		Bilateral, Interstit Cell Seminif Tub Interstit Cell	Adenoma Atrophy Hyperplasia	Marked Minimal
Note: ADENOMA Thyroid Gland	TGLs = 6-6	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH		-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 217

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862817

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Eye	Heart
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Pancreas
Parathyroid Gland	Salivary Glands	Seminal Vesicle	Skin
Spleen	Thymus	Thyroid Gland	Trachea

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Marked
	Cecum	Ulcer	Marked
Note: HYPERPLASIA TGLs = 5-7.1+7.2+7.3+7.4			
Note: ULCER TGLs = 5-7.1+7.2+7.3+7.4			
Note: INFLAMMATION TGLs = 5-7.1+7.2+7.3+7.4			
Kidney		Nephropathy	Minimal
Liver		Inflammation	Acute, Mild
	Note: THERE WERE SMALL NUMBERS OF MICROABSCESSES THROUGHOUT THE LIVER.		
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Inflammation	Chronic Active, Moderate
Note: INFLAMMATION TGLs = 4-8.1			
Note: ECTASIA TGLs = 4-8.1			
Mammary Gland		Hyperplasia	Mild
		Pigmentation	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Minimal
Prostate		Inflammation	Acute, Marked
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:11

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 217

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 456

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 862817

**ORGAN AND ACCOUNTABLE SITE STATUS**

Forestomach

Hyperkeratosis

Mild

Forestomach

Hyperplasia

Squamous, Moderate

Forestomach

Ulcer

Minimal

Note: HYPERKERATOSIS TGLs = 7-7

Note: HYPERPLASIA TGLs = 7-7

Testes

Interstit Cell

Adenoma

Seminif Tub

Atrophy

Minimal

Interstit Cell

Hyperplasia

Minimal

Note: ADENOMA TGLs = 8-6

Urinary Bladder

Subserosa

Mineralization

Minimal

Note: IT MAY BE WITHIN A SMALL BLOOD VESSEL.

Note: MINOR FOCAL MINERALIZATION WAS NOTED IN THE SUBSEROSA.

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 218

TRT#: 4

SEX: Male

DAY ON TEST: 640

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO:

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea			

MISSING

Intestine Large - Colon	Mammary Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
Note: HYPERPLASIA TGLs = 10-7.1+7.2			
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8-3			
Lung	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-1+2			
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: ECTASIA TGLs = 5,6-8.1			
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 218

TRT#: 4

SEX: Male

DAY ON TEST: 640

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO:

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreas		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Mild
	Epithelium	Hyperplasia	Marked
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-3		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 2,3-6		
Urinary Bladder		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 219

TRT#: 4

SEX: Male

DAY ON TEST: 374

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862818

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Heart	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Islets, Pancreatic	Nose
Parathyroid Gland	Pituitary Gland	Salivary Glands	Seminal Vesicle
Skin	Spleen	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Colon	Hyperplasia	Glandular, Mild
	Colon	Inflammation	Chronic Active, Marked
	Cecum	Ulcer	Marked
	Colon	Ulcer	Marked
Note: ULCER TGLs = 6-7			
Note: HYPERPLASIA TGLs = 5-7.1+7.2+7.3			
Note: ULCER TGLs = 5-7.2+7.3			
Intestine Small	Jejunum	Autolysis	Mild
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	
		Hepatocellular Adenoma	
		Inflammation	Chronic Active, Mild
Note: [ HEPATOCLR ADEN ] TGLs = 8-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Inflammation	Chronic Active, Marked
Note: INFLAMMATION TGLs = 7-8.1			
Note: ECTASIA TGLs = 7-8.1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 219

TRT#: 4

SEX: Male

DAY ON TEST: 374

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862818

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose

Note: PROBABLY AN ARTEFACT ASSOCIATED WITH THE SACRIFICE.

Note: HEMORRHAGE WAS NOTEE IN THE NASAL PASSAGES. IT IS

Pancreas

Acinus

Atrophy

Mild

Inflammation

Chronic Active, Minimal

Preputial Gland

Adenoma

[ Adenoma TGLS = 3-10.1 ]

Prostate

Inflammation

Chronic Active, Moderate

Stomach

Glandular, Mucosa

Dilatation

Minimal

Forestomach

Hyperkeratosis

Mild

Forestomach

Hyperplasia

Squamous, Mild

Forestomach

Ulcer

Multiple, Marked

Note: HYPERPLASIA TGLs = 9-7.4

Note: HYPERKERATOSIS TGLs = 9-7.4

[ Dilatation TGLS = 9-7.4 ]

Testes

Interstit Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 220

TRT#: 4

SEX: Male

DAY ON TEST: 580

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862816

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Eye	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Nose	Prostate
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea			

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Brain		Infarct	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-5		
Note: INFARCT	TGLs = 6-5		
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
Note: HYPERPLASIA	TGLs = 10-7.2		
Islets, Pancreatic		Adenoma	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: HDN	TGLs = 7-3.1		
Note: LEUKEMIA MONUC	TGLs = 8-3+3.1		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 9-1+2.1		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 220

TRT#: 4

SEX: Male

DAY ON TEST: 580

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862816

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 11-9		
Note: LEUKEMIA MONUC	TGLs = 5-8+8.1+8.2		
Note: ECTASIA	TGLs = 5-8.1		
Mammary Gland		Hyperplasia	Minimal
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid	Minimal
		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 4-6		
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 221

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862821

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Pituitary Gland	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Eye	Cornea	Neovascularization	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
Note: HYPERPLASIA	TGLs = 4-7.1+7.2		
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
Note: HDN	TGLs = 6-3		
Lung	Alveolar Epith	Hyperplasia	Mild
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Note: ECTASIA	TGLs = 5-7.1+7.2		
Mammary Gland		Hyperplasia	Minimal
Nose	Nasolacrim Dct	Inflammation	Chronic Active, Mild
	Nasolacrim Dct	Metaplasia	Squamous, Mild
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild
Salivary Glands	Sublingual GI	Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

**ANIMAL ID:** 221

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862821

**ORGAN AND ACCOUNTABLE SITE STATUS**

Seminal Vesicle	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Testes	Bilateral, Interstit Cell	Atrophy	Moderate
	Seminif Tub	Adenoma	
	Interstit Cell	Atrophy	Marked
	Seminif Tub	Hyperplasia	Minimal
		Mineralization	Minimal

Note: ADENOMA TGLs = 3-6

PRIMARY CAUSE OF DEATH

-

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 222

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862822

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Pancreas
Parathyroid Gland	Salivary Glands	Stomach - Forestomach	Trachea
Urinary Bladder			

MISSING

Eye	Thymus		
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OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Minimal
Ear		Leukemia Mononuclear	
Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Mild
Note: [ HYPERPLASIA ] TGLs = 5-7+7.1+7.2			
Note: [ ULCER ] TGLs = 5-7.2			
Note: [ INFLAMMATION ] TGLs = 5-7.1+7.2			
Kidney		Nephropathy	Moderate
Note: [ NEPHROPATHY ] TGLs = 7-4			
Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ HDN ] TGLs = 8-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: [ HYPERPLASIA ] TGLs = 11-9			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 222

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862822

ORGAN AND ACCOUNTABLE SITE STATUS

Note: [ ECTASIA ] TGLs = 6-7.1+7.2			
Mammary Gland		Hyperplasia	Mild
Nose	Nasolacrim Dct	Inflammation	Chronic Active, Mild
	Nasolacrim Dct	Metaplasia	Squamous, Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: [ ADENOMA ] TGLs = 10-8			
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Seminal Vesicle		Atrophy	Moderate
Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 3-13 ]			
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: [ ADENOMA ] TGLs = 4-6			
Thyroid Gland	Follicular Cel	Adenoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 223

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862819

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Mammary Gland	Nose	Parathyroid Gland	Salivary Glands
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	Multiple
Coagulating Gland		Atrophy	Moderate
Note: [ ATROPHY ] TGLs = 17-6			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Note: TO THE PRESENCE OF COAGULATED BLOOD IN THE CHAMBER.			
Note: THE APPARENT ENLARGEMENT OF THE RIGHT ATRIUM WAS DUE			
Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ HDN ] TGLs = 9-3			
Note: [ LEUKEMIA MONUC ] TGLs = 8-3			
Lung		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 10-1+2.1			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 223

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862819

ORGAN AND ACCOUNTABLE SITE STATUS

Note: [ ECTASIA ] TGLs = 6-8.1

Note: [ LEUKEMIA MONUC ] TGLs = 7-9

Note: [ LEUKEMIA MONUC ] TGLs = 15-2.1

Pancreas	Acinus	Atrophy Inflammation	Minimal Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Moderate
Skin	Subcut Tiss	Sarcoma	
Spleen		Fibrosis Leukemia Mononuclear	Minimal
Stomach	Glandular, Mucosa Forestomach	Dilatation Inflammation	Minimal Chronic Active, Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Interstit Cell	Adenoma Atrophy Hyperplasia	Marked Minimal
Thyroid Gland		Pigmentation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 224

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862820

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Prostate	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Benign	
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum	Ulcer	Moderate
Note: [ HYPERPLASIA ] TGLs = 10-7.2+7.3			
Note: ULCER TGLs = 10-7.2+7.3			
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Mild
Liver		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Note: [ EOSIN FOCUS ] TGLs = 9-3			
Lung		Alveolar/Bronchiolar Adenoma	
		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: ALV BRON ADEN TGLs = 8-1			
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 4-8.1			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 224

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862820

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy Inflammation	Minimal Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Seminif Tub	Mineralization	Minimal
Note: ADENOMA	TGLs = 2,3-6		
Thyroid Gland	C Cell	Adenoma	
Note: ADENOMA	TGLs = 7-8		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 225

TRT#: 4

SEX: Male

DAY ON TEST: 682

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862823

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

MISSING

Intestine Small - Jejunum

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: HYPERPLASIA TGLs = 9-7+7.1			
Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-3			
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8-9 [ Ectasia TGLS = 2,3-8.1 ]			
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Foreign Body	Minimal
		Inflammation	Chronic Active, Minimal
Note: A FEW BACTERIA AND A PIECE OF PLANT MATERIAL WAS NOTED			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 225

TRT#: 4

SEX: Male

DAY ON TEST: 682

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862823

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: ENMESHED WITH THE NEUTROPHILS WITHIN THE NOSE.

Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 7-8		
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Marked
[ Atrophy TGLS = 4-6 ]			
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3		
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Mineralization	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 226

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862824

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Seminal Vesicle	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Mild
Note: INFLAMMATION	TGLs = 9,10-7.1+7.2		
Note: HYPERPLASIA	TGLs = 11-7.3		
Note: ULCER	TGLs = 9,10-7.2		
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Moderate
Liver		Basophilic Focus	
	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: SINUSOIDS OF THE LIVER CONTAIN SMALL NUMBERS OF			
Note: MONONUCLEAR CELLS SUGGESTIVE OF AN EARLY MONONUCLEAR			
Note: CELL LEUKEMIA.			
Note: HDN	TGLs = 8-3.1		
Lung		Infiltration Cellular	Histiocyte, Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mandibular	Hyperplasia	Plasma Cell, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 226

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862824

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: ECTASIA TGLs = 4-7.1

[ Hyperplasia TGLS = 2-9 ]

Mammary Gland

Nose

Hyperplasia

Inflammation

Metaplasia

Mild

Chronic Active, Moderate

Squamous, Mild

Note: VISIBLE WITHIN THE LUMEN OF THE NOSE WERE FUNGAL

Note: MYCELIA, PRESUMABLY ASPERGILLUS SPECIES, SURROUNDED

Note: BY NUMEROUS NEUTROPHILS.

Pancreas

Acinus

Atrophy

Inflammation

Minimal

Chronic Active, Minimal

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA TGLs = 7-8

Preputial Gland

Prostate

Spleen

Inflammation

Inflammation

Leukemia Mononuclear

Chronic Active, Mild

Chronic Active, Moderate

Note: THE CELL POPULATION PRESENT IS SUGGESTIVE OF AN EARLY

Note: MONONUCLEAR CELL LEUKEMIA.

Note: THE RED PULP OF THE SPLEEN IS VERY CONGESTED HOWEVER

Stomach

Glandular, Mucosa

Dilatation

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Marked

Seminif Tub

Mineralization

Minimal

Note: ADENOMA TGLs = 3-6

Thyroid Gland

C Cell

Hyperplasia

Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 227

TRT#: 4

SEX: Male

DAY ON TEST: 479

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862828

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex  
Brain  
Intestine Large - Colon  
Intestine Small - Jejunum  
Salivary Glands  
Stomach - Forestomach  
Urinary Bladder

Adrenal Gland - Medulla  
Epididymis  
Intestine Large - Rectum  
Islets, Pancreatic  
Seminal Vesicle  
Thymus

Bone  
Esophagus  
Intestine Small - Duodenum  
Lung  
Skin  
Thyroid Gland

Bone Marrow  
Heart  
Intestine Small - Ileum  
Pancreas  
Spleen  
Trachea

MISSING

Parathyroid Gland

OBSERVATIONS

Intestine Large

Cecum  
Cecum, Lamina Propria, Submucosa  
Cecum

Hyperplasia  
Inflammation  
Ulcer

Glandular, Minimal  
Chronic Active, Mild  
Minimal

Note: HYPERPLASIA TGLs = 7-7.1

Note: ULCER TGLs = 7-7.1

Note: INFLAMMATION TGLs = 7-7.1

Kidney

Bile Duct  
Mesenteric, Sinus  
Mandibular  
Mesenteric  
Mesenteric

Nephropathy  
Hyperplasia  
Ectasia  
Hyperplasia  
Infiltration Cellular  
Inflammation

Mild  
Minimal  
Marked  
Lymphoid, Mild  
Histiocyte, Minimal  
Chronic Active, Marked

Note: HYPERPLASIA TGLs = 4-9

Note: ECTASIA TGLs = 9-7.1+8+8.1

Note: INFLAMMATION TGLs = 9-8.1

Mammary Gland

Nose

Hyperplasia  
Inflammation  
Metaplasia  
Hyperplasia  
Inflammation

Mild  
Chronic Active, Marked  
Squamous, Mild  
Minimal  
Chronic Active, Minimal

Pituitary Gland

Preputial Gland

Pars Distalis

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:11  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 227

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 479

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 862828

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: INFLAMMATION TGLs = 3-10

Prostate

Fibrosis

Mild

Inflammation

Chronic Active, Mild

Stomach

Glandular, Mucosa

Dilatation

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Minimal

Interstit Cell

Hyperplasia

Minimal

---

Note: ADENOMA TGLs = 5-6

PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:11

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 228

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862825

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Pancreas	Parathyroid Gland
Salivary Glands	Seminal Vesicle	Skin	Spleen
Thyroid Gland	Trachea		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: PHEOCHROM BGN	TGLs = 11-8		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Colon	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Colon	Inflammation	Chronic Active, Minimal
Note: HYPERPLASIA	TGLs = 7-7.4		
Note: INFLAMMATION	TGLs = 7-7.4		
Note: INFLAMMATION	TGLs = 6-7.2+7.3		
Note: HYPERPLASIA	TGLs = 6-7.1+7.27.3		
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Marked
Liver		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA	TGLs = 8-7.3		
[ Hyperplasia TGLS = 2-9 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 228

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862825

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland

Fibroadenoma

Hyperplasia

Mild

Note: FIBROADENOMA TGLs = 3-13

[ Fibroadenoma TGLS = 4-13 ]

Nose

Inflammation

Metaplasia

Chronic Active, Marked

Squamous, Mild

Note: PRESUMABLY ASPERGILLUS SPECIES, SURROUNDED BY LARGE

Note: WITHIN THE LUMEN OF THE NOSE WERE FUNGAL MYCELIA,

Note: NUMBERS OF NEUTROPHILS.

Pituitary Gland

Pars Distalis

Adenoma

Multiple

Note: ADENOMA TGLs = 9-8

Preputial Gland

Inflammation

Chronic Active, Mild

Prostate

Inflammation

Chronic Active, Marked

Stomach

Glandular, Mucosa

Dilatation

Mild

Forestomach

Erosion

Minimal

Testes

Bilateral, Interstit Cell

Adenoma

Seminif Tub

Atrophy

Moderate

Interstit Cell

Hyperplasia

Minimal

Note: ADENOMA TGLs = 5-6

Tongue

Squamous Cell Papilloma

Note: PAPILLOMA SQUA TGLs = 10-14

Urinary Bladder

Inflammation

Chronic Active, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 229

TRT#: 4

SEX: Male

DAY ON TEST: 538

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862827

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Intestine Large - Rectum
Islets, Pancreatic	Parathyroid Gland	Salivary Glands	Skin
Trachea	Urinary Bladder		

MISSING

Esophagus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Hypocellularity	Mild
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Leukemia Mononuclear	
	Colon	Leukemia Mononuclear	
	Note: HYPERPLASIA TGLs = 13-7.1+7.2		
	Note: LEUKEMIA MONUC TGLs = 13-7+7.1+7.2		
Intestine Small	Duodenum	Leukemia Mononuclear	
	Ileum	Leukemia Mononuclear	
	Jejunum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
	Note: LEUKEMIA MONUC TGLs = 5-3		
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Note: LEUKEMIA MONUC TGLs = 7,8-1+2		
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mandibular	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 229	<b>TRT#:</b> 4	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 538
	<b>DOSE:</b> 50,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862827

ORGAN AND ACCOUNTABLE SITE STATUS

	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 14-2		
Note: LEUKEMIA MONUC	TGLs = 11-9		
Note: ECTASIA	TGLs = 3-8.1		
Note: LEUKEMIA MONUC	TGLs = 6-9		
	[ Ectasia TGLS = 3-8+8.1 ]		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 11-9		
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
		Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Note: INFLAMMATION	TGLs = 12-10		
Prostate		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Seminal Vesicle		Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-3		
Stomach	Forestomach	Leukemia Mononuclear	
Testes	Interstit Cell	Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 10-6		
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 230

TRT#: 4

SEX: Male

DAY ON TEST: 716

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862826

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Eye
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Salivary Glands	Skin
Thymus	Trachea	Urinary Bladder	

MISSING

Mammary Gland

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Colon	Parasite Metazoan	Minimal
Note: HYPERPLASIA TGLs = 14-7.1			
Kidney		Nephropathy	Mild
Liver		Degeneration	Minimal
	Bile Duct	Hyperplasia	Mild
		Hyperplasia	Mild
		Leukemia Mononuclear	
Note: [ HYPERPLASIA ] TGLs = 10,16-3+3.1			
Note: LEUKEMIA MONUC TGLs = 11-3			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 13-1+2			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
[ Ectasia TGLS = 9-8.1 ]			
[ Hyperplasia TGLS = 12-2 ]			
[ Leukemia Mononuclear TGLS = 9-8.1 ]			
Nose	Nasolacrim Dct	Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 230

TRT#: 4

SEX: Male

DAY ON TEST: 716

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862826

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Nasolacrim Dct	Metaplasia	Squamous, Mild
Pituitary Gland	Acinus	Atrophy	Mild
	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Mild
		Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
	Note: LEUKEMIA MONUC TGLs = 7-3		
	Note: FIBROSIS TGLs = 15-3		
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Hyperplasia	Squamous, Minimal
Testes	Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
	Seminif Tub	Mineralization	Minimal
	[ Hyperplasia TGLS = 5,6-6 ]		
Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 231

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862830

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Mammary Gland
Pancreas	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
	Colon, Epithelium, Submucosa	Proliferation	Minimal
	Cecum	Ulcer	Minimal
	Cecum	Ulcer	Minimal
Note: INFLAMMATION	TGLs = 5-7.1		
Note: ULCER	TGLs = 5-7.1		
Note: ULCER	TGLs = 5-7.1		
Note: HYPERPLASIA	TGLs = 5-7.1		
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Hyperplasia	Minimal
Note: CLEAR CL FOCUS	TGLs = 6,7,9-3+3.1		
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 2-7.1+7.3 ]			
Nose		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 231

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862830

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Mucosa Pars Intermed Pars Distalis	Ulcer Adenoma Hyperplasia	Moderate Minimal
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI Submandibul GI Duct, Submandibul GI	Atrophy Inflammation Metaplasia	Mild Chronic Active, Mild Squamous, Minimal
Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell Seminif Tub Seminif Tub	Adenoma Atrophy Mineralization	Marked Minimal
Note: ADENOMA TGLs = 3,4-6 Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 232

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853103

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Preputial Gland	Salivary Glands
Seminal Vesicle	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Mild
Note: BY CHRONIC ACTIVE INFLAMMATORY CELLS.			
Note: WERE OBSERVED BENEATH THE MUSCULARIS MUCOSAE SURROUNDED			
Note: INFLAMMATION TGLs = 12-7.1+7.2			
Note: SEVERAL SMALL ISLANDS OF WELL DIFFERENTIATED GLANDS			
Note: HYPERPLASIA TGLs = 12-7.1+7.2			
Intestine Small	Epithelium, Ileum	Pigmentation	Mild
Note: NEGATIVE.			
Note: NUMEROUS TANGLES OF BACTERIAL RODS WERE NOTED ON THE			
Note: SURFACE OF THE ILEUM. THEY APPEAR TO BE MAINLY GRAM			
Note: PIGMENT TGLs = 9-7			
Kidney		Nephropathy	Mild
Liver		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Note: [ HEPATOCLR ADEN ] TGLs = 7-3			
Note: INFLAMMATION TGLs = 8-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 232

TRT#: 4

SEX: Male

DAY ON TEST: 456

DOSE: 50,000 PPM MALE

DISP: Interval Sacrifice

HISTO: 853103

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mandibular

Hemorrhage

Mild

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mesenteric

Pigmentation

Minimal

Note: ECTASIA TGLs = 4-8+8.1

Note: HEMORRHAGE TGLs = 2-9

Mammary Gland

Hyperplasia

Mild

Pancreas

Atrophy

Minimal

Inflammation

Chronic, Minimal

Pituitary Gland

Pars Distalis

Cyst

Minimal

Prostate

Inflammation

Chronic Active, Minimal

Stomach

Glandular

Metaplasia

Squamous, Mild

Note: METAPL TGLs = 10-7

Note: TWO EXTRA SECTIONS OF THE STOMACH WERE CUT IN TO DEMON-

Note: STRATE THE AREA OF SQUAMOUS METAPLASIA.

Testes

Bilateral, Interstit Cell

Adenoma

Minimal

Interstit Cell

Hyperplasia

Note: ADENOMA TGLs = 3-6+6.1+6.2

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 233

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862829

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Coagulating Gland		Atrophy	Moderate
Note: ATROPHY	TGLs = 8-6		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Metaplasia	Osseous, Mild
	Cecum	Ulcer	Mild
Note: ULCER	TGLs = 12-7.2		
Note: INFLAMMATION	TGLs = 12-7.1+7.2		
Note: WITHIN THE MUCOSA BENEATH THE AREA OF ULCERATION IN			
Note: THE CECUM WAS AN UNUSUAL CHANGE DIAGNOSED AS OSSEOUS			
Note: METAPLASIA.			
Note: HYPERPLASIA	TGLs = 12-7.1+7.2		
Kidney		Nephropathy	Mild
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	
[ Hepatodiaphragmatic Nodule TGLS = 4-3.1 ]			
[ Hyperplasia TGLS = 10-3 ]			
[ Leukemia Mononuclear TGLS = 5-3+3.1 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 233

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862829

**ORGAN AND ACCOUNTABLE SITE STATUS**

Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 6-1+2		
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA	TGLs = 3-7.1+7.2		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Mild
	Mucosa	Ulcer	Mild
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Intermed	Cyst	Minimal
Preputial Gland		Adenoma	
		Inflammation	Chronic Active, Mild
Note: ADENOMA	TGLs = 11-10		
Prostate		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY	TGLs = 7-6		
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
Testes	Bilateral, Interstit Cell	Adenoma	
	Seminif Tub	Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 9-6		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 234

TRT#: 4

SEX: Male

DAY ON TEST: 371

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 852080

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Pituitary Gland	Salivary Glands
Seminal Vesicle	Skin	Spinal Cord	Testes
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Necrosis	Coagulative, Focal, Mild
Heart		Cardiomyopathy	Mild
		Congestion	Marked
Note: CONGESTION	TGLs = 8-14		
Kidney		Autolysis	Mild
	Adventitia	Inflammation	Chronic Active, Minimal
		Mineralization	Minimal
	Prox Con Tub	Pigmentation	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
Lung	Perivascular	Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Abscess	Marked
	Mesenteric, Sinus	Ectasia	Marked
Note: ABSCESS	TGLs = 5,6-7.1		
Nose		Inflammation	Chronic Active, Moderate
Pancreas		Inflammation	Chronic Active, Mild
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Minimal
Spleen		Depletion Lymphoid	Minimal
Stomach	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Minimal
	Forestomach	Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 234

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 371

**DOSE:** 50,000 PPM MALE

**DISP:** Dead

**HISTO:** 852080

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thymus

Glandular, Submucosa

Inflammation

Chronic Active, Mild

Congestion

Marked

Depletion Lymphoid

Moderate

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 235

TRT#: 4

SEX: Male

DAY ON TEST: 528

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862831

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Epididymis	Esophagus	Eye
Intestine Large - Rectum	Intestine Small - Jejunum	Parathyroid Gland	Skin
Trachea			

MISSING

Islets, Pancreatic	Mammary Gland	Pancreas	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Coagulating Gland		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 25-6.1		
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 16-2		
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum	Leukemia Mononuclear	
	Colon	Leukemia Mononuclear	
Note: HYPERPLASIA	TGLs = 4-7.1+7.2		
Note: LEUKEMIA MONUC	TGLs = 4,27-7+7.1+7.2		
Intestine Small	Duodenum	Leukemia Mononuclear	
	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Note: LEUKEMIA MONUC	TGLs = 11,12-4		
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5,6,13,14-3+3.1+3.2+3.3+3.4		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 235

TRT#: 4

SEX: Male

DAY ON TEST: 528

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862831

ORGAN AND ACCOUNTABLE SITE STATUS

Note: FATTY CHANGE	TGLs = 19-3+3.1+3.2+3.3+3.4		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 17-1-2.1		
Lymph Node		Mesenteric, Sinus	Ectasia
		Mandibular	Leukemia Mononuclear
		Mesenteric	Leukemia Mononuclear
Note: LEUKEMIA MONUC	TGLs = 8,26-8.1+8.2+9		
Note: ECTASIA	TGLs = 8,26-8.1		
Note: LEUKEMIA MONUC	TGLs = 15-9		
Mesentery			Leukemia Mononuclear
Note: LEUKEMIA MONUC	TGLs = 7-14		
Nose			Inflammation
Pituitary Gland		Pars Intermed	Leukemia Mononuclear
		Pars Nervosa	Leukemia Mononuclear
			Leukemia Mononuclear
Preputial Gland			Inflammation
Prostate			Inflammation
			Leukemia Mononuclear
Salivary Glands		Submandibul GI	Leukemia Mononuclear
Seminal Vesicle			Leukemia Mononuclear
Note: LEUKEMIA MONUC	TGLs = 24-6.1		
Spleen			Leukemia Mononuclear
Note: LEUKEMIA MONUC	TGLs = 10-3+3.5		
Stomach		Glandular, Mucosa	Dilatation
		Forestomach	Hyperkeratosis
		Forestomach	Hyperplasia
		Forestomach	Leukemia Mononuclear
		Glandular	Leukemia Mononuclear
		Forestomach	Ulcer
Note: HYPERPLASIA	TGLs = 22-7+7.3		
Note: LEUKEMIA MONUC	TGLs = 21,23-7+7.3		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 235	<b>TRT#:</b> 4	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 528
	<b>DOSE:</b> 50,000 PPM MALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 862831

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: HYPERKERATOSIS TGLs = 22-7+7.3

Testes	Bilateral, Interstit Cell Interstit Cell	Adenoma Hyperplasia	Minimal
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Note: ADENOMA TGLs = 18-6

Thymus

Note: THE THYMUS COULD NOT BE RECOGNIZED IN THE TISSUES FROM

Note: THE MEDIASTINUM. PROBABLY IT WAS ENGULFED BY THE MONO-

Note: NUCLEAR CELL LEUKEMIA.

Thyroid Gland	Leukemia Mononuclear
Urinary Bladder	Leukemia Mononuclear

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 236

TRT#: 4

SEX: Male

DAY ON TEST: 695

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862833

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Epididymis	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Skin	Thymus	Trachea	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8-8			
Brain		Infarct	Mild
		Leukemia Mononuclear	
Note: INFARCT TGLs = 16-5			
Note: LEUKEMIA MONUC TGLs = 16-5			
Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 12-2			
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Leukemia Mononuclear	
	Cecum	Ulcer	Mild
Note: INFLAMMATION TGLs = 7-7.2			
Note: LEUKEMIA MONUC TGLs = 7-7.1+7.2			
Note: ULCER TGLs = 7-7.2			
Note: [ HYPERPLASIA ] TGLs = 7-7.1+7.2			
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 13-3			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 10,11-1+2.1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 236

TRT#: 4

SEX: Male

DAY ON TEST: 695

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862833

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mesenteric, Sinus Mesenteric Mesenteric	Ectasia Infiltration Cellular Leukemia Mononuclear	Marked Histiocyte, Minimal
Note: ECTASIA	TGLs = 6-7+7.1+7.2+8.1		
Note: LEUKEMIA MONUC	TGLs = 6-7+7.1+7.2+8+8.1		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Mild
Pancreas	Acinus	Atrophy Inflammation	Mild Chronic Active, Minimal
Pituitary Gland	Pars Distalis Pars Distalis Pars Nervosa	Adenoma Hyperplasia Leukemia Mononuclear Leukemia Mononuclear	Minimal
Note: ADENOMA	TGLs = 14-8		
Note: HYPERPLASIA	TGLs = 14-8		
Preputial Gland		Inflammation	Chronic Active, Minimal
Prostate		Inflammation	Chronic Active, Moderate
Seminal Vesicle		Atrophy	Moderate
Note: ATROPHY	TGLs = 4-6		
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3.1		
Stomach	Glandular, Mucosa Forestomach	Dilatation Ulcer	Minimal Minimal
Note: ULCER	TGLs = 18-7.3		
Testes	Bilateral, Interstit Cell Seminif Tub Interstit Cell Seminif Tub	Adenoma Atrophy Hyperplasia Mineralization	Marked Minimal Minimal
Note: ADENOMA	TGLs = 2,3-6		
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 236

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 695

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 862833

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Zymbal's Gland

Adenocarcinoma

Note: ADENOCARC TGLs = 17-13.1+14

Note: THE ZYMBAL'S GLAND TUMOR APPEARS TO BE A COMBINATION OF

Note: SQUAMOUS AND SEBACEOUS ELEMENTS.

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 237

TRT#: 4

SEX: Male

DAY ON TEST: 521

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862836

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Epididymis	Esophagus
Islets, Pancreatic	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Skin	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Bone Marrow	Sternal	Leukemia Mononuclear	
Ear	Pinna	Schwannoma Malignant	
Note: [ SCHWANNOMA MAL ] TGLs = 2-13			
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Colon	Autolysis	Mild
	Rectum	Autolysis	Mild
	Cecum	Hyperplasia	Glandular, Minimal
	Cecum	Leukemia Mononuclear	
	Colon	Leukemia Mononuclear	
Intestine Small	Duodenum	Leukemia Mononuclear	
	Ileum	Leukemia Mononuclear	
	Jejunum	Leukemia Mononuclear	
Kidney		Autolysis	Mild
		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 15-3			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 12-1+2			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 237

TRT#: 4

SEX: Male

DAY ON TEST: 521

DOSE: 50,000 PPM MALE

DISP: Dead

HISTO: 862836

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mesenteric, Sinus Mandibular Mediastinal Mesenteric	Ectasia Leukemia Mononuclear Leukemia Mononuclear Leukemia Mononuclear	Moderate
Note: ECTASIA TGLs = 9-8.1 Note: LEUKEMIA MONUC TGLs = 9-8.1 Note: LEUKEMIA MONUC TGLs = 14-2.1 [ Leukemia Mononuclear TGLS = 4-9 ]			
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis Leukemia Mononuclear	Mild
Note: LEUKEMIA MONUC TGLs = 8-14 Note: FIBROSIS TGLs = 8-14			
Nose		Inflammation Leukemia Mononuclear	Chronic Active, Mild
Pituitary Gland	Pars Distalis Pars Intermed Pars Nervosa	Leukemia Mononuclear Leukemia Mononuclear Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Seminal Vesicle		Atrophy	Moderate
Spleen		Depletion Lymphoid Leukemia Mononuclear	Mild
Note: LEUKEMIA MONUC TGLs = 7-3.1			
Stomach	Forestomach Forestomach Glandular Glandular	Hyperplasia Leukemia Mononuclear Leukemia Mononuclear Necrosis	Squamous, Minimal  Coagulative, Mild
Note: NECROSIS TGLs = 17-7 Note: HYPERPLASIA TGLs = 16-7			
Testes	Interstit Cell Seminif Tub	Adenoma Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 237

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 521

**DOSE:** 50,000 PPM MALE

**DISP:** Dead

**HISTO:** 862836

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Seminif Tub

Mineralization

Minimal

[ Adenoma TGLS = 5-6 ]

[ Atrophy TGLS = 6-6 ]

Thymus

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 13-2.1

Thyroid Gland

Autolysis

Mild

Trachea

Leukemia Mononuclear

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 238

TRT#: 4

SEX: Male

DAY ON TEST: 522

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862834

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Seminal Vesicle
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 19-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Axillary	Leukemia Mononuclear	
	Lumbar	Leukemia Mononuclear	
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-9.1			
Note: LEUKEMIA MONUC TGLs = 12-8.1			
Note: LEUKEMIA MONUC TGLs = 8-2			
Note: LEUKEMIA MONUC TGLs = 15,16-3.1+4			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 238

TRT#: 4

SEX: Male

DAY ON TEST: 522

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862834

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 13,14-3+9.1

Note: ECTASIA TGLs = 12-8.1

[ Leukemia Mononuclear TGLS = 6,7-7+9 ]

Mammary Gland

Hyperplasia

Moderate

Leukemia Mononuclear

[ Hyperplasia TGLS = 3-10 ]

[ Leukemia Mononuclear TGLS = 3-10 ]

Nose

Inflammation

Chronic Active, Mild

Pancreas

Acinus

Atrophy

Mild

Leukemia Mononuclear

Pituitary Gland

Pars Distalis

Leukemia Mononuclear

Pars Intermed

Leukemia Mononuclear

Pars Nervosa

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 17-8

Preputial Gland

Inflammation

Chronic Active, Minimal

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 4-10 ]

Prostate

Inflammation

Chronic Active, Mild

Leukemia Mononuclear

Salivary Glands

Submandibul GI

Leukemia Mononuclear

Skin

Subcut Tiss

Leukemia Mononuclear

Spleen

Depletion Lymphoid

Moderate

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 10-3.1

Stomach

Glandular, Mucosa

Dilatation

Mild

Forestomach

Leukemia Mononuclear

Glandular

Leukemia Mononuclear

Epithelium, Glandular

Pigmentation

Minimal

Testes

Interstit Cell

Adenoma

Seminif Tub

Atrophy

Moderate

Interstit Cell

Hyperplasia

Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 238

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 522

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 862834

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Seminif Tub

Leukemia Mononuclear  
Mineralization

Minimal

Note: ADENOMA TGLs = 9-6

Thymus

Thyroid Gland

Note: LEUKEMIA MONUC TGLs = 18-8

Urinary Bladder

Leukemia Mononuclear

Leukemia Mononuclear

Leukemia Mononuclear

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 239

TRT#: 4

SEX: Male

DAY ON TEST: 522

DOSE: 50,000 PPM MALE

DISP: Moribund

HISTO: 862835

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Parathyroid Gland	Prostate
Salivary Glands	Seminal Vesicle	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

MISSING

Esophagus	Intestine Large - Rectum
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OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum	Ulcer	Mild
Note: HYPERPLASIA	TGLs = 4,8-7.1+7.2+7.3+7.4		
Note: ULCER	TGLs = 8-7.1+7.4		
Islets, Pancreatic		Adenoma	
Kidney		Nephropathy	Mild
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
Note: HDN	TGLs = 5-3		
Lung		Bronchiectasis	Moderate
		Foreign Body	Mild
Note: BRONCHIECTASIS	TGLs = 6-1+2		
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Foreign Body	Moderate
		Inflammation	Chronic Active, Moderate
		Metaplasia	Squamous, Mild
Note: BOTH PLANT AND FUNGAL MATERIAL WAS NOTED WITHIN THE			
Note: LUMEN OF THE NOSE.			
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 239

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 522

**DOSE:** 50,000 PPM MALE

**DISP:** Moribund

**HISTO:** 862835

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Pars Distalis	Inflammation	Chronic Active, Minimal
	Pars Distalis	Adenoma	Multiple
Preputial Gland	Duct	Hyperplasia	Minimal
[ Dilatation TGLS = 3-10 ]		Dilatation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 7-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 240

TRT#: 4

SEX: Male

DAY ON TEST: 729

DOSE: 50,000 PPM MALE

DISP: Terminal Sacrifice

HISTO: 862832

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Pituitary Gland
Preputial Gland	Prostate	Skin	Spleen
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Marked
Note: HYPERPLASIA	TGLs = 5-7.1+7.2		
Note: ULCER	TGLs = 5-7.2		
Note: INFLAMMATION	TGLs = 5-7.2		
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
Lung		Alveolar/Bronchiolar Adenoma	
		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA	TGLs = 3-7.1+7.2		
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Atrophy	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
Seminal Vesicle		Atrophy	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 240

**TRT#:** 4

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM MALE

**DISP:** Terminal Sacrifice

**HISTO:** 862832

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Seminif Tub

Atrophy

Marked

Note: ADENOMA      TGLs = 1-6

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 256

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863088

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
Note: [ ADENOMA ] TGLs = 1-10			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
Lymph Node	Mandibular, Sinus	Ectasia	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Angiectasis	Minimal
	Pars Distalis	Hyperplasia	Minimal
Note: ANGIECTASIS TGLs = 3-8			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Adenoma	
Note: ADENOMA TGLs = 2-8			
Uterus		Pigmentation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 257

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM FEMALE

DISP: Dead

HISTO: 863091

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Salivary Glands	Skin
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-8		
Clitoral Gland		Adenoma	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Clear Cell Focus	Minimal
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7,8-3		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-9		
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
Note: FIBROADENOMA	TGLs = 1-13		
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 257

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM FEMALE

DISP: Dead

HISTO: 863091

ORGAN AND ACCOUNTABLE SITE STATUS

Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
	Pars Distalis	Leukemia Mononuclear	
Note: ADENOMA	TGLs = 10-8		
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 3-3+3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Squamous Cell Papilloma	
Note: PAPILLOMA SQUA	TGLs = 12-7.2		
Note: GLANDULAR STOMACH WHICH COULD BE RELATED TO THE PLANE			
Note: THERE APPEARS TO BE A SQUAMOUS PAPILLOMA IN THE			
Note: OF SECTION. THIS IDEA WAS MOST APPARENT IN RECUT			
Note: SECTIONS 7B.1, 7B.2, AND 7B.3. SECTION 7B.4 SUGGESTED			
Note: A SQUAMOUS PAPILLOMA ARISING IN THE FORESTOMACH.			
Uterus		Polyp Stromal	
Note: POLYP STROMAL	TGLs = 4-6		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 258

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863089

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Ear
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Skin	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Blood		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-16		
Clitoral Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION	TGLs = 4-10		
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 12-4		
Note: NEPHROPATHY	TGLs = 12-4		
Liver		Fatty Change	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 17-3		
Note: FATTY CHANGE	TGLs = 17-3		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 15-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 258

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863089

ORGAN AND ACCOUNTABLE SITE STATUS

Mediastinal  
Mesenteric  
Pancreatic

Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 13-9  
Note: LEUKEMIA MONUC TGLs = 14-2  
Note: LEUKEMIA MONUC TGLs = 10-7.1+8  
Note: LEUKEMIA MONUC TGLs = 11-9.1

Mammary Gland

Hyperplasia

Moderate

[ Hyperplasia TGLs = 3-10 ]

Ovary

Cyst  
Granulosa Cell Tumor Benign  
Leukemia Mononuclear

Marked

Note: CYST TGLs = 5-6.1  
Note: LEUKEMIA MONUC TGLs = 5-6.1

Pancreas

Acinus

Atrophy  
Leukemia Mononuclear  
Vacuolization Cytoplasmic

Minimal

Pituitary Gland

Pars Distalis

Adenoma

Minimal

Note: ADENOMA TGLs = 20-8

Salivary Glands

Submandibul GI

Leukemia Mononuclear  
Leukemia Mononuclear

Spleen

Note: LEUKEMIA MONUC TGLs = 6,7-3.1

Stomach

Glandular, Mucosa  
Forestomach  
Forestomach

Dilatation  
Hyperplasia  
Ulcer

Minimal  
Squamous, Minimal  
Mild

Note: ULCER TGLs = 22-7+7.2

Thymus

Leukemia Mononuclear

Thyroid Gland

Leukemia Mononuclear

Zymbal's Gland

Adenocarcinoma

Note: [ ADENOCARC ] TGLs = 1-14

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 259

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863090

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Mild
Clitoral Gland Note: INFLAMMATION TGLs = 1-10		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
		Basophilic Focus	Minimal
Liver		Inflammation	Chronic Active, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
		Adenocarcinoma	
Mammary Gland  Note: [ ADENOCARC ] TGLs = 2-10 [ Hyperplasia TGLs = 2-10 ]		Hyperplasia	Marked
Mesentery  Note: FIBROSIS TGLs = 5-13 Note: INFLAMMATION TGLs = 5-13		Fibrosis	Mild
		Inflammation	Chronic Active, Moderate
Nose		Inflammation	Chronic Active, Minimal
Ovary		Cyst	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

**ANIMAL ID:** 259

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863090

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Cyst TGLS = 3-6 ]		Hemorrhage	Marked
[ Hemorrhage TGLS = 3-6 ]			
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 8-8			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Adenoma	
Note: ADENOMA TGLs = 6-8			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 260

TRT#: 6

SEX: Female

DAY ON TEST: 553

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863092

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Eye	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Parathyroid Gland	Salivary Glands	Stomach - Forestomach	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

MISSING

Thymus

INSUFFICIENT TISSUE

Skin

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Leukemia Mononuclear	
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-3		
Note: FATTY CHANGE	TGLs = 6-3		
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-8		
Mammary Gland		Hyperplasia	Moderate
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 260

**TRT#:** 6  
**DOSE:** 0 PPM FEMALE

**SEX:** Female  
**DISP:** Moribund

**DAY ON TEST:** 553  
**HISTO:** 863092

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Pars Distalis	Inflammation	Chronic Active, Minimal
	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 7-8		Cyst	Mild
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 261

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863095

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Ovary
Pancreas	Parathyroid Gland	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Mild
Clitoral Gland		Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Minimal
[ Basophilic Focus TGLS = 2-3 ]			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
Skin		Squamous Cell Papilloma	
Note: [ PAPILOMA SQUA ] TGLs = 1-10			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 261

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863095

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 262

TRT#: 6

SEX: Female

DAY ON TEST: 457

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853105

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Liver	Nose	Ovary
Pancreas	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Brain			
Note: TISSUE WHICH APPEARS TO BE THE PINEAL GLAND.			
Note: WITHIN THE THIRD VENTRICLE OF THE BRAIN IS A PIECE OF			
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mediastinal	Hemorrhage	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: HEMORRHAGE TGLs = 3-2			
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Cyst	Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal
Urin Bladder			
Note: A PAPILLOMA-LIKE LESION WAS OBSERVED IN THE WALL OF THE			
Note: BLADDER; HOWEVER IT WAS DECIDED IT REPRESENTED AN			
Note: WHICH WAS NOT PRESENT IN ADDITIONAL SECTIONS.			
Note: ONE SECTION OF THE BLADDER HAD A PECULIAR FOLD IN IT			
Note: ARTEFACT RATHER THAN A TRUE PAPILLOMA.			
Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 263

TRT#: 6

SEX: Female

DAY ON TEST: 457

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853104

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Clitoral Gland	Esophagus	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Kidney	Mammary Gland	Nose	Ovary
Pancreas	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder	Uterus		

**OBSERVATIONS**

Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Liver		Basophilic Focus	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA TGLs = 2-8			
Salivary Glands	Submandibul GI	Inflammation	Chronic, Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urin Bladder			

Note: RECUTS OF THE BLADDER FAILED TO SUPPORT THE IDEA OF

Note: EPITHELIAL HYPERPLASIA.

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 264

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863093

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Nose
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Uterus			

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Islets, Pancreatic		Adenoma	
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose			
Note: THIS IS NOT A PROTOCOL REQUIRED TISSUE.			
Note: ONE OF THE INCISOR TEETH WAS ABSCESSSED; HOWEVER,			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 264

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863093

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Stomach

Glandular, Mucosa

Dilatation

Minimal

Urinary Bladder

Inflammation

Chronic Active, Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 265

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863094

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Ovary	Pancreas	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
		Mixed Cell Focus	Mild
Note: MIXED CL FOCUS TGLs = 6,7,8,9-3+3.1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
[ Fibroadenoma TGLS = 1-13+13.1 ]			
[ Hyperplasia TGLS = 2-10 ]			
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
Note: CYST TGLs = 10-8			
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 265

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863094

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Uterus

Endometrium

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 266

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863098

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Nose	Ovary	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Adenoma	
Note: ADENOMA	TGLs = 2-13		
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: HDN	TGLs = 4-3		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Adenoma	
		Fibroadenoma	
		Hyperplasia	Marked
Note: FIBROADENOMA	TGLs = 1-14		
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Angiectasis	Mild
Note: ADENOMA	TGLs = 6-8		
Note: ANGIECTASIS	TGLs = 6-8		
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

---

**ANIMAL ID:** 266

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863098

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Hydrometra

Moderate

Note: HYDROMETRA TGLs = 7-6

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 267

TRT#: 6

SEX: Female

DAY ON TEST: 461

DOSE: 0 PPM FEMALE

DISP: Dead

HISTO: 863100

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Islets, Pancreatic	Lung
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Vagina	

OBSERVATIONS

Adrenal Gland	Cortex	Hematopoietic Cell Proliferation	Mild
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Mild
	Rectum	Autolysis	Moderate
	Cecum	Parasite Metazoan	Minimal
Intestine Small	Duodenum	Autolysis	Moderate
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Moderate
Kidney		Autolysis	Mild
Liver		Inflammation	Chronic Active, Minimal
		Necrosis	Coagulative, Mild
		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric		
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
		Vacuolization Cytoplasmic	Moderate

Note: CYTOPLASM IS PROBABLY RELATED TO AUTOLYSIS.

Note: IN THIS CASE THE VACUOLIZATION OF THE ACINAR CELL

Pituitary Gland	Pars Distalis	Cyst	Minimal
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Uterus		Polyp Stromal	

Note: POLYP STROMAL TGLs = 2,3,4-6.1+6.2

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 267

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 461

**DOSE:** 0 PPM FEMALE

**DISP:** Dead

**HISTO:** 863100

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 268

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863096

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Nose
Ovary	Pancreas	Parathyroid Gland	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder	Uterus		

INSUFFICIENT TISSUE

Skin

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Hyperplasia	Mild
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN TGLs = 4-8			
Clitoral Gland		Inflammation	Chronic Active, Minimal
Eye	Cornea	Inflammation	Chronic Active, Mild
	Cornea	Neovascularization	Moderate
Note: INFLAMMATION TGLs = 1-13 [ Inflammation TGLS = 1-13 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Mild
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Mild
Note: AGGREGATES OF HISTIOCYTES AND OTHER MONONUCLEAR CELLS. Note: CLEAR CL FOCUS TGLs = 2-3 Note: IN THE FOCI OF CHRONIC INFLAMMATION THERE WERE [ Clear Cell Focus TGLS = 3-3 ]			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 268

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863096

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Mammary Gland

Hyperplasia

Moderate

Pituitary Gland

Pars Distalis

Cyst

Mild

Pars Distalis

Hyperplasia

Mild

Salivary Glands

Duct, Submandibul GI

Metaplasia

Squamous, Minimal

Thyroid Gland

C Cell

Hyperplasia

Mild

Inflammation

Chronic Active, Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 269

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863097

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 3-4 ]			
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
Lung	Alveolar Epith	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 4-2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Galactocele	Moderate
		Hyperplasia	Moderate
[ Galactocele TGLS = 2-13 ]			
[ Hyperplasia TGLS = 2-10+13 ]			
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 7-8			
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 270

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863099

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Mild
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Galactocele	Moderate
		Hyperplasia	Mild
[ Galactocele TGLS = 1-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
Note: ADENOMA	TGLs = 4-8		
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 270

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863099

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 271

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863103

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Ovary	Pancreas	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Mild
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	Multiple
		Galactocele	Mild
		Hyperplasia	Moderate
Note: GALACTOCELE TGLs = 6-10			
Note: FIBROADENOMA TGLs = 1,2-13+14			
[ Fibroadenoma TGLS = 6-10 ]			
Nose		Inflammation	Chronic Active, Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Mild
Note: ADENOMA TGLs = 5-8			
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen			
Note: THERE IS A NODULE ON THE CAPSULE OF THE SPLEEN; HOW-			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 271

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863103

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: EVER, THE SPLENIC HISTOLOGY IS NORMAL.

Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Mild

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 272

TRT#: 6

SEX: Female

DAY ON TEST: 457

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853107

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Liver	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
Note: ADENOMA	TGLs = 4-10		
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose	Glands, Submucosa	Inflammation	Acute, Minimal
	Nasopharyn Dct	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 273

TRT#: 6

SEX: Female

DAY ON TEST: 457

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853106

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Mammary Gland	Ovary	Pancreas	Parathyroid Gland
Pituitary Gland	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose	Lumen	Inflammation	Acute, Mild
	Mucosa, Submucosa	Inflammation	Chronic Active, Mild
		Metaplasia	Squamous, Mild
Salivary Glands	Sublingual GI	Inflammation	Chronic, Minimal
	Submandibular GI	Inflammation	Chronic Active, Minimal
	Sublingual GI	Metaplasia	Squamous, Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 274

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863101

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea		

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Mild
		Clear Cell Focus	Moderate
		Eosinophilic Focus	Mild
		Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 3,4-3 [ Clear Cell Focus TGLS = 2-3.1 ]			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder	Subserosa	Mineralization	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

---

**ANIMAL ID:** 274

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863101

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Uterus

Endometrium

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 275

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863102

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Heart	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Moderate
Note: HYPERPLASIA TGLs = 4-8			
Note: VACUOLIZ CYTO TGLs = 4-8			
Clitoral Gland		Inflammation	Chronic Active, Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver		Fatty Change	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
		Necrosis	Coagulative, Minimal
Note: LEUKEMIA MONUC TGLs = 3-3			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-9			
Mammary Gland		Hyperplasia	Moderate
Pancreas		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 275

**TRT#:** 6  
**DOSE:** 0 PPM FEMALE

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 734  
**HISTO:** 863102

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA Spleen	TGLs = 5-8	Pars Distalis	Cyst	Minimal
[ Leukemia Mononuclear TGLS = 1-3.1 ] Thyroid Gland Uterus		C Cell	Depletion Lymphoid Leukemia Mononuclear Adenoma Polyp Stromal	Moderate

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 276

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863107

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION	TGLs = 1-10		
Heart		Cardiomyopathy	Minimal
Intestine Large	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
Note: ADENOMA	TGLs = 2-8		
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 277

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863105

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Moderate
Note: HYPERPLASIA TGLs = 3-8			
Clitoral Gland		Adenoma	
		Hyperplasia	Mild
		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Minimal
Note: HDN TGLs = 5-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: INFILTRAT CELL TGLs = 4-1.1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Marked
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

---

**ANIMAL ID:** 277

**TRT#:** 6  
**DOSE:** 0 PPM FEMALE

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 734  
**HISTO:** 863105

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Uterus	Cervix Endometrium	Cyst Hyperplasia	Marked Moderate
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Note: WERE IN THE CYST.  
Note: KERATINIZED EPITHELIUM. MILD NUMBERS OF NEUTROPHILS  
Note: A CYSTIC STRUCTURE LINED BY STRATIFIED SQUAMOUS  
Note: ON THE SEROSAL SURFACE OF THE UTERINE CERVIX WAS  
Note: CYST TGLs = 1-6  
[ Hyperplasia TGLS = 2-6 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 278

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863106

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Vacuolization Cytoplasmic	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Inflammation	Chronic Active, Minimal
		Mixed Cell Focus	Mild
Note: MIXED CL FOCUS TGLs = 4-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Moderate
Note: FIBROADENOMA TGLs = 1,2-10.1+13			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-8			
Stomach	Glandular, Mucosa	Dilatation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 279

TRT#: 6

SEX: Female

DAY ON TEST: 455

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853108

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Mammary Gland	Nose	Ovary
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mediastinal	Hemorrhage	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HEMORRHAGE TGLs = 1-2			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 280

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863104

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Mild
	Bile Duct	Hepatodiaphragmatic Nodule	
Note: HDN TGLs = 4-3		Hyperplasia	Mild
Lung		Metaplasia	Osseous, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Marked
Note: HYPERPLASIA TGLs = 2-10			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Minimal
Note: CYST TGLs = 6-8			
Skin	Foot	Acanthosis	Mild
	Foot	Hyperkeratosis	Moderate
Note: ACANTHOSIS TGLs = 1-10			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 280

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863104

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: HYPERKERATOSIS TGLs = 1-10

Stomach

Glandular, Mucosa

Dilatation

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 281

TRT#: 6

SEX: Female

DAY ON TEST: 643

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863110

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Liver	Ovary	Pancreas
Parathyroid Gland	Skin	Spleen	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Colon	Parasite Metazoan	Minimal
Islets, Pancreatic		Hyperplasia	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Marked
			[ Nephropathy TGLS = 2-4 ]
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Intermed	Angiectasis	Mild
			Note: ADENOMA TGLs = 3-8
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Ulcer	Mild
			Note: HYPERKERATOSIS TGLs = 4-7

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 281

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 643

**DOSE:** 0 PPM FEMALE

**DISP:** Moribund

**HISTO:** 863110

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: HYPERPLASIA TGLs = 4-7

Note: ULCER TGLs = 4-7

Thymus

Cyst

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 282

TRT#: 6

SEX: Female

DAY ON TEST: 455

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853110

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
Note: ADENOMA	TGLs = 1-10		
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic, Minimal
Note: HDN	TGLs = 4-3		
Lung	Artery, Muscularis	Hyperplasia	Minimal
Lymph Node	Mediastinal	Hemorrhage	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: HEMORRHAGE	TGLs = 7-2		
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Mild
		Inflammation	Chronic, Mild
Note: FIBROSIS	TGLs = 2-13		
Note: INFLAMMATION	TGLs = 2-13		
Pancreas		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Pigmentation	Minimal
Note: DISTALIS.			
Note: SMALL AGGREGATES OF MACROPHAGES LADEN WITH OLIVE-GREEN			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 282

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 0 PPM FEMALE

**DISP:** Interval Sacrifice

**HISTO:** 853110

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: PIGMENT WERE NOTED IN THE INTERSTITIUM OF THE PARS

Note: PIGMENT TGLs = 6-8

Salivary Glands

Submandibul GI

Inflammation

Chronic, Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 283

TRT#: 6

SEX: Female

DAY ON TEST: 457

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853109

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Nose	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Eye

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Heart		Cardiomyopathy	Minimal
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Inflammation	Chronic, Minimal
		Necrosis	Coagulative, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Mild
	Mesenteric	Pigmentation	Minimal
	Pancreatic	Pigmentation	Minimal
Note: INFILTRAT CELL TGLs = 1-9			
Mammary Gland		Hyperplasia	Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
Uterus	Endometrium	Cyst	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 284

TRT#: 6

SEX: Female

DAY ON TEST: 676

DOSE: 0 PPM FEMALE

DISP: Dead

HISTO: 863109

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Salivary Glands	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

**MISSING**

Parathyroid Gland

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Brain		Hydrocephalus	Mild
Note: THE MILD DEGREE OF HYDROCEPHALUS IS PROBABLY RELATED Note: TO THE VERY LARGE PITUITARY TUMOR PRESSING ON THE Note: BASE OF THE BRAIN.			
Clitoral Gland	Duct	Dilatation	Mild
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Carcinoma	Metastatic (Pituitary Gland)
	Alveolar Epith	Hyperplasia	Mild
	Artery	Mineralization	Minimal
Note: ALTHOUGH A METASTATIC PITUITARY CARCINOMA IS A VERY Note: VERY RARE TUMOR, THE LACK OF ANY OTHER PRIMARY TUMORS Note: IN THIS ANIMALS BODY, STRONGLY SUGGESTS THE PITUITARY Note: AS THE PRIMARY SITE FOR THE METASTASES. Note: [ HYPERPLASIA ] TGLs = 7-1.1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 284

**TRT#:** 6  
**DOSE:** 0 PPM FEMALE

**SEX:** Female  
**DISP:** Dead

**DAY ON TEST:** 676  
**HISTO:** 863109

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland Note: CARCINOMA TGLs = 6-8.1	Pars Distalis	Carcinoma	
Skin [ Abscess TGLS = 1-13 ]		Abscess	Marked
Stomach	Glandular, Mucosa	Dilatation	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 285

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO:

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Intestine Large - Colon  
Intestine Small - Jejunum  
Spleen  
Urinary Bladder

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Stomach - Forestomach  
Uterus

Brain  
Intestine Small - Duodenum  
Ovary  
Thymus

Esophagus  
Intestine Small - Ileum  
Salivary Glands  
Trachea

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland

Cortex

Angiectasis

Minimal

Cortex

Vacuolization Cytoplasmic

Mild

Bone

Cranium

Osteopetrosis

Moderate

Note: OSTEOPETROSIS TGLs = 9,10-12+15

Clitoral Gland

Inflammation

Chronic Active, Minimal

Heart

Cardiomyopathy

Minimal

Intestine Large

Cecum

Parasite Metazoan

Minimal

Kidney

Nephropathy

Mild

Liver

Angiectasis

Minimal

Basophilic Focus

Minimal

Lung

Infiltration Cellular

Histiocyte, Minimal

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mammary Gland

Hyperplasia

Moderate

Nose

Inflammation

Chronic Active, Minimal

Pancreas

Inflammation

Chronic Active, Minimal

Pituitary Gland

Pars Distalis

Adenoma

Pars Distalis

Hyperplasia

Mild

Skin

Foot

Acanthosis

Mild

Foot

Hyperkeratosis

Mild

Foot

Inflammation

Chronic Active, Mild

Subcut Tiss

Inflammation

Chronic, Moderate

Note: INFLAMMATION TGLs = 2-13

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 285

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:**

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**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: ACANTHOSIS TGLs = 6,7-6+14

Note: HYPERKERATOSIS TGLs = 6,7-6+14

Note: INFLAMMATION TGLs = 6,7-6+14

Stomach Glandular, Mucosa Dilatation Minimal

Thyroid Gland C Cell Carcinoma

C Cell Hyperplasia Minimal

Note: [ CARCINOMA ] TGLs = 4-8

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 286

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863111

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
		Necrosis	Coagulative, Minimal
Lung		Alveolar/Bronchiolar Adenoma	
[ Alveolar/Bronchiolar Adenoma TGLS = 2-1 ]			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
[ Fibroadenoma TGLS = 1-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Adenoma	
Urinary Bladder		Inflammation	Chronic Active, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 287

TRT#: 6

SEX: Female

DAY ON TEST: 457

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853111

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Inflammation	Chronic, Mild
Lymph Node	Mandibular	Hemorrhage	Moderate
	Mediastinal	Hemorrhage	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: PIGMENT	TGLs = 2-2		
Note: HEMORRHAGE	TGLs = 3-9		
Note: HEMORRHAGE	TGLs = 2-2		
Mammary Gland		Hyperplasia	Mild
Pancreas		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 1-8		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 288

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863112

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Inflammation	Chronic Active, Minimal
		Mixed Cell Focus	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
[ Hyperplasia TGLS = 1-10 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	Multiple
	Pars Distalis	Cyst	Mild
Note: ADENOMA	TGLs = 7-8		
Spleen		Hyperplasia	Lymphoid, Moderate
		Infiltration Cellular	Histiocyte, Mild
Note: HYPERPLASIA	TGLs = 3-3.1		
Note: INFILTRAT CELL	TGLs = 3-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 288

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863112

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 289

TRT#: 6

SEX: Female

DAY ON TEST: 680

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863113

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Parathyroid Gland
Skin	Trachea	Urinary Bladder	

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Moderate
Brain		Leukemia Mononuclear	
Clitoral Gland	Duct	Dilatation	Mild
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3		
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-1+2 ]			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Moderate
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Marked
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Angiectasis	Moderate
	Pars Distalis	Cyst	Moderate

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 289	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 680
	<b>DOSE:</b> 0 PPM FEMALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 863113

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Pars Distalis	Leukemia Mononuclear	
	Pars Intermed	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Note: ANGIECTASIS	TGLs = 3-8		
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Mild
		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 290

TRT#: 6

SEX: Female

DAY ON TEST: 455

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853112

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Ovary	Pancreas	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Note: INFLAMMATION TGLs = 5-10			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Hepatodiaphragmatic Nodule	
Note: HDN TGLs = 1-3			
Lymph Node	Mediastinal	Hemorrhage	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: PIGMENT TGLs = 3-2 [ Hemorrhage TGLS = 3-2 ]			
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
Note: ADENOMA TGLs = 2-8			
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 291

TRT#: 6

SEX: Female

DAY ON TEST: 455

DOSE: 0 PPM FEMALE

DISP: Interval Sacrifice

HISTO: 853113

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Nose	Ovary	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic, Minimal
Lymph Node	Mediastinal	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
	Mediastinal	Pigmentation	Minimal
	Mesenteric	Pigmentation	Minimal
Note: PIGMENT	TGLs = 2-2		
Mammary Gland		Hyperplasia	Mild
Pancreas		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Intermed	Cyst	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 292

TRT#: 6

SEX: Female

DAY ON TEST: 550

DOSE: 0 PPM FEMALE

DISP: Dead

HISTO: 863116

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Parathyroid Gland	Pituitary Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Uterus	

MISSING

Islets, Pancreatic

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Moderate
	Rectum	Autolysis	Moderate
	Cecum	Lymphoma Malignant Mixed	
	Colon	Lymphoma Malignant Mixed	
Intestine Small	Duodenum	Autolysis	Moderate
	Ileum	Autolysis	Moderate
	Jejunum	Autolysis	Moderate
Kidney		Autolysis	Moderate
		Nephropathy	Mild
Note: AUTOLYSIS	TGLs = 5-4		
Liver		Autolysis	Moderate
Note: AUTOLYSIS	TGLs = 6,9-3		
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Lymphoma Malignant Mixed	
Note: WHAT APPEARED TO BE ENLARGED MESENTERIC LYMPH NODE			
Note: SURROUNDING THE NODE.			
Note: LYMPH MAL MIXD	TGLs = 11-2		
Note: WAS ACTUALLY LYMPOMA INFILTRATING IN THE MESENTERY			
Mammary Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 292

TRT#: 6

SEX: Female

DAY ON TEST: 550

DOSE: 0 PPM FEMALE

DISP: Dead

HISTO: 863116

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mesentery		Lymphoma Malignant Mixed	
Note: LYMPH MAL MIXD TGLs = 4-8			
Nose		Inflammation	Chronic Active, Mild
	Mucosa	Ulcer	Minimal
Note: IN THE LUMEN OF THE NOSE.			
Note: FUNGAL MYCELIA SURROUNDED BY NEUTROPHILS WERE NOTED			
Ovary		Lymphoma Malignant Mixed	
[ Lymphoma Malignant Mixed TGLS = 2-6 ]			
Pancreas		Lymphoma Malignant Mixed	
Note: LYMPH MAL MIXD TGLs = 3-9			
Spleen		Autolysis	Moderate
		Depletion Lymphoid	Mild
Stomach	Glandular	Autolysis	Marked
Tissue NOS		Lymphoma Malignant Mixed	
Note: LYMPH MAL MIXD TGLs = 10-13			
Urinary Bladder		Lymphoma Malignant Mixed	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 293

TRT#: 6

SEX: Female

DAY ON TEST: 603

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863115

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Liver
Lung	Ovary	Parathyroid Gland	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Hematopoietic Cell Proliferation	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Eye		Phthisis Bulbi	Moderate
[ Phthisis Bulbi TGLS = 3-13 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 9-8 ]			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Skin	Subcut Tiss	Sarcoma	

Note: SOME AREAS OF THIS SPINDLE CELL MASS ARE VERY

Note: POORLY DIFFERENTIATED WITH MULTINUCLEATE GIANT CELLS.

Note: THE SUBCUTANEOUS SARCOMA COULD BE A FIBROSARCOMA.

[ Sarcoma TGLS = 4-10.1+10.2+10.3+10.4 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 294

TRT#: 6

SEX: Female

DAY ON TEST: 517

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863117

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Eye	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Ovary	Pancreas	Parathyroid Gland
Pituitary Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 2-13 ]			
Nose		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Marked
Note: METAPL TGLs = 4-12			
Note: INFLAMMATION TGLs = 4-12			
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED			
Note: IN THE LUMEN OF THE NOSE.			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Cyst	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Mild
		Inflammation	Acute, Mild
		Polyp Stromal	
[ Polyp Stromal TGLS = 3-6 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 294

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 517

**DOSE:** 0 PPM FEMALE

**DISP:** Moribund

**HISTO:** 863117

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 295

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863114

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Hyperplasia	Minimal
		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
Spleen		Hyperplasia	Lymphoid, Mild
Note: HYPERPLASIA TGLs = 2-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 296

TRT#: 6

SEX: Female

DAY ON TEST: 574

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863122

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Eye	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Ovary	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Nose	Parathyroid Gland		
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OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland	Duct	Dilatation	Mild
Heart		Cardiomyopathy	Mild
Kidney		Hydronephrosis	Moderate
		Nephropathy	Mild

Note: SECONDARY TO THE IMPINGEMENT OF THE CERVICAL MASS

Note: ON THE URETHRA WITH BACK PRESSURE.

Note: THE HYDRONEPHROSIS IN THIS ANIMAL IS ACQUIRED AND

Note: HYDRONEPHROSIS TGLs = 4,8-4

Liver		Fatty Change	Mild
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus		Hydrometra	Mild
		Leiomyosarcoma	
		Polyp Stromal	

Note: HYDROMETRA TGLs = 7-6

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 296

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 574

**DOSE:** 0 PPM FEMALE

**DISP:** Moribund

**HISTO:** 863122

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leiomyosarcoma TGLS = 3-6+6.1+6.2+6.3 ]

Zymbal's Gland

Carcinoma

Note: [ CARCINOMA ] TGLs = 6-13

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 297

TRT#: 6

SEX: Female

DAY ON TEST: 681

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863120

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Liver	Ovary	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 1-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Ovary			
Note: OF THE OVARIES IS CONSIDERED TO BE NORMAL.			
Note: THE YELLOW BROWN PIGMENTATION OBSERVED IN THE STROMA			
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
[ Hyperplasia TGLS = 5-8 ]			
Salivary Glands	Sublingual GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 298

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863119

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Moderate
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Adenocarcinoma	
		Fibroadenoma	Multiple
		Hyperplasia	Moderate

Note: CYTOLOGICALLY MORE BASOPHILIC AND THERE WERE PAP-  
 Note: THE MAMMARY MASS DIAGNOSED AS AN ADENOCARCINOMA WAS  
 Note: ILLARY AND CYSTIC FORMATIONS. THE MASS APPEARED TO  
 Note: INTO THE ADJACENT PARENCHYMA.  
 Note: BE CIRCUMSCRIBED AND THERE WAS NO OBVIOUS INFILTRATION  
 [ Adenocarcinoma TGLS = 2-10.2 ]  
 [ Fibroadenoma TGLS = 1,3,4-10.1+10.3+10.4 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

**ANIMAL ID:** 298

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863119

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy Inflammation	Mild Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen		Leukemia Mononuclear Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 299

TRT#: 6

SEX: Female

DAY ON TEST: 646

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863121

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Eye  
Intestine Small - Jejunum  
Skin  
Urinary Bladder

Bone  
Intestine Large - Rectum  
Islets, Pancreatic  
Stomach - Forestomach

Bone Marrow  
Intestine Small - Duodenum  
Parathyroid Gland  
Thymus

Brain  
Intestine Small - Ileum  
Salivary Glands  
Trachea

MISSING

Esophagus

OBSERVATIONS

Adrenal Gland  
Clitoral Gland  
Heart  
Intestine Large  
  
Kidney  
  
Liver

Cortex  
  
Cecum  
Colon

Vacuolization Cytoplasmic  
Inflammation  
Cardiomyopathy  
Parasite Metazoan  
Parasite Metazoan  
Leukemia Mononuclear  
Nephropathy  
Fatty Change  
Leukemia Mononuclear

Minimal  
Chronic Active, Minimal  
Minimal  
Mild  
Minimal  
  
Mild  
Mild

Note: LEUKEMIA MONUC TGLs = 9-3

Note: FATTY CHANGE TGLs = 9-3

Lung

Note: LEUKEMIA MONUC TGLs = 13,14-1+2

Lymph Node

Mesenteric  
Mediastinal  
Mesenteric  
Pancreatic

Leukemia Mononuclear  
  
Infiltration Cellular  
Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear

Histiocyte, Minimal

Note: LEUKEMIA MONUC TGLs = 7-8

Note: LEUKEMIA MONUC TGLs = 10-2

Note: LEUKEMIA MONUC TGLs = 6-9.1

Mammary Gland

Nose

Hyperplasia  
Inflammation

Moderate  
Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 299

TRT#: 6

SEX: Female

DAY ON TEST: 646

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863121

**ORGAN AND ACCOUNTABLE SITE STATUS**

Ovary		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-6 ]			
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 15-8		
Saliv Glands			
Note: THE MANDIBULAR AND SUBLINGUAL SALIVARY GLANDS WERE			
Note: PRESENT; HOWEVER, THE PAROTID GLAND WAS NOT PRESENT.			
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Minimal
[ Hyperplasia TGLS = 4-6 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 300

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863118

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Ovary	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Eosinophilic Focus	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Cyst	Mild
Note: [ ANGIECTASIS ] TGLs = 1-8			
Spleen		Angiectasis	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 301

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863123

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Ileum  
Parathyroid Gland  
Trachea

Bone Marrow  
Intestine Large - Colon  
Intestine Small - Jejunum  
Skin  
Urinary Bladder

Brain  
Intestine Large - Rectum  
Islets, Pancreatic  
Stomach - Forestomach  
Uterus

Clitoral Gland  
Intestine Small - Duodenum  
Ovary  
Thyroid Gland

**MISSING**

Thymus

**OBSERVATIONS**

Adrenal Gland

Cortex

Vacuolization Cytoplasmic

Minimal

Bone

Cranium

Hyperostosis

Mild

Note: ERAL NODULES OF WELL DIFFERENTIATED BONE.

Note: HYPEROSTOSIS TGLs = 6-13

Note: ALONG THE VENTRAL SURFACE OF THE CRANIUM WERE SEV-

Brain

Note: EXCAVATION IN THE SURFACE. JUST BELOW THIS AREA

Note: NEAR THE MIDLINE OF THE CEREBRUM THERE WAS AN

Note: THERE WAS FOCAL MINERALIZATION IN THE BRAIN.

Heart

Cardiomyopathy

Mild

Leukemia Mononuclear

Intestine Large

Cecum

Parasite Metazoan

Minimal

Kidney

Nephropathy

Mild

Liver

Hepatodiaphragmatic Nodule

Bile Duct

Hyperplasia

Minimal

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 5-3+3.1

Note: HDN TGLs = 4,8-3+3.1

Lung

Infiltration Cellular

Histiocyte, Moderate

Leukemia Mononuclear

Note: INFILTRAT CELL TGLs = 3-1+2

Note: LEUKEMIA MONUC TGLs = 3-1+2

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 301

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863123

**ORGAN AND ACCOUNTABLE SITE STATUS**

Lymph Node	Mesenteric Mandibular Mesenteric	Infiltration Cellular Leukemia Mononuclear Leukemia Mononuclear	Histiocyte, Minimal
Note: LEUKEMIA MONUC TGLs = 9-9			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy Leukemia Mononuclear	Mild
Pituitary Gland	Pars Distalis	Cyst	Mild
Salivary Glands	Submandibul GI Duct, Submandibul GI	Inflammation Metaplasia	Chronic Active, Minimal Squamous, Minimal
Spleen		Depletion Lymphoid Leukemia Mononuclear	Minimal
[ Leukemia Mononuclear TGLS = 2-3.2 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 302

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863124

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Lung
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Clitoral Gland		Hyperplasia	Mild
		Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 1-10			
Heart		Cardiomyopathy	Mild
Islets, Pancreatic		Carcinoma	
Note: [ CARCINOMA ] TGLs = 2-9			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thymus		Cyst	Minimal
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 303

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863125

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Hyperplasia	Mild
		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Mixed Cell Focus	Minimal
Note: HDN TGLs = 2-3.1			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 1-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 4-8			
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 303

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863125

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 304

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863126

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Mild
		Leukemia Mononuclear	
		Necrosis	Coagulative, Minimal

Note: SMALL AGGREGATES OF HISTIOCYTES AND LYMPHOCYTES

Note: SINUSOIDS.

Note: A FEW MONONUCLEAR CELL LEUKEMIA CELLS WERE NOTED IN

Note: RARE SINGLE CELL NECROSIS WAS NOTED IN THE LIVER.

Note: WERE NOTED THROUGHOUT THE PARENCHYMA.

Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	

Note: THE NODE AT THE BASE OF THE MESENTERY ON SLIDE 8

Note: THE MESENTERIC LYMPH NODE ASSOCIATED WITH THE CECUM

Note: HAD EVIDENCE OF MONONUCLEAR CELL LEUKEMIA; WHEREAS,

Note: WAS NOT CONVINCING.

Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 304	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 0 PPM FEMALE	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 863126

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
Spleen		Depletion Lymphoid	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA.			
Note: THIS APPEARS TO BE AN EARLY CASE OF MONONUCLEAR CELL			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 305

TRT#: 6

SEX: Female

DAY ON TEST: 692

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863127

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Clitoral Gland
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Parathyroid Gland	Salivary Glands	Spleen
Stomach - Forestomach	Trachea	Urinary Bladder	

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Vacuolization Cytoplasmic	Mild
Brain		Gliosis	Mild
Note: IN A FOCAL AREA OF THE MIDBRAIN JUST ABOVE THE POINT OF ATTACHMENT OF THE PITUITARY ADENOMA, THERE WAS A MARKED INCREASE IN GLIAL CELLS. THE LESION DID NOT APPEAR TO BE A BONIFIED GLIOMA.			
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
[ Hyperplasia TGLS = 1-10 ]			
Mesentery		Fibrosis	Mild
		Inflammation	Chronic Active, Mild
Note: FIBROSIS TGLs = 3-3			
Note: INFLAMMATION TGLs = 3-3			
Nose		Inflammation	Chronic Active, Minimal
Ovary		Granulosa Cell Tumor Benign	
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 305

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 692

**DOSE:** 0 PPM FEMALE

**DISP:** Moribund

**HISTO:** 863127

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA TGLs = 4-8.1

Skin	Subcut Tiss	Inflammation	Chronic, Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 306

TRT#: 6

SEX: Female

DAY ON TEST: 468

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863132

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Skin	Spleen	Stomach - Forestomach
Trachea	Urinary Bladder	Uterus	

MISSING

Parathyroid Gland	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Brain		Hydrocephalus	Mild
Note: PITUITARY CARCINOMA.			
Note: THE VENTRICULAR SYSTEM OF THE BRAIN IS SLIGHTLY EN-			
Note: LARGED PROBABLY RELATED TO THE PRESSURE FROM THE			
Clitoral Gland	Duct	Dilatation	Mild
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Fatty Change	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
[ Hyperplasia TGLS = 1-10 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: [ ADENOMA ] TGLs = 3-8.1			
Salivary Glands	Parotid GI, Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 307

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863129

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Ovary	Pancreas	Parathyroid Gland
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Adenocarcinoma	
		Inflammation	Chronic Active, Mild
[ Adenocarcinoma TGLS = 1-10.1 ]			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Moderate
Note: FIBROADENOMA TGLs = 2,3-13+14			
Nose		Inflammation	Chronic Active, Mild
Pituitary Gland	Pars Distalis	Adenoma	Multiple
Note: ADENOMA TGLs = 6-8			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 308

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863128

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Parathyroid Gland
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Mild
	Medulla	Pheochromocytoma Benign	
[ Angiectasis TGLS = 3-8 ]			
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
Note: SINUSOIDS SUGGESTIVE OF MONONUCLEAR CELL LEUKEMIA.			
Note: THERE ARE A FEW SUSPECIOUS CELLS IN THE LIVER			
[ Hepatodiaphragmatic Nodule TGLS = 2-3.1 ]			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: ADENOMA.			
Note: THE LUNG LESION MAY BE AN EARLY ALVEOLAR BRONCHIOLAR			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 308

TRT#: 6

SEX: Female

DAY ON TEST: 734

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863128

**ORGAN AND ACCOUNTABLE SITE STATUS**

Spleen	Duct, Submandibul GI	Metaplasia Depletion Lymphoid Leukemia Mononuclear	Squamous, Minimal Minimal
Note: CHANGES IN THE SPLEEN ARE SUGGESTIVE OF AN EARLY Note: MONONUCLEAR CELL LEUKEMIA.			
Stomach	Glandular, Mucosa Glandular	Dilatation Metaplasia	Mild Squamous, Mild
Note: STOMACH, WAS ACTUALLY IN THE GLANDULAR STOMACH. IT Note: APPEARS TO BE AN AREA OF SQUAMOUS METAPLASIA WITH Note: AN ACANTHOTIC KERATINIZED EPITHELIUM ARISING FROM Note: THE NODULE DESCRIBED BY THE TRIMMER IN THE FORE- Note: THE GLANDULAR EPITHELIUM. [ Dilatation TGLS = 4-7.2 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 1-6 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 309

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863131

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Hyperplasia	Minimal
Pituitary Gland	Pars Distalis	Carcinoma	
Note: THE DIAGNOSIS OF CARCINOMA WAS MADE BASED UPON THE			
Note: AND THE LARGE NUMBERS OF MITOTIC FIGURES.			
Note: DEGREE OF INVASIVENESS OF THIS TUMOR INTO THE BRAIN			
[ Carcinoma TGLS = 6,7-5+5.1+8 ]			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Moderate
Note: HYDROMETRA TGLs = 4-6+6.1			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE





**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 310

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863130

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA TGLs = 5-8

Salivary Glands  
Spleen

Sublingual GI

Inflammation  
Depletion Lymphoid  
Fibrosis  
Leukemia Mononuclear

Chronic Active, Minimal  
Minimal  
Marked

Note: ON THE OPPOSITE END OF THE SPLEEN.

Note: THERE APPEARS TO BE AN EARLY MONONUCLEAR CELL LEUKEMIA  
[ Fibrosis TGLS = 1-3.1 ]

Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 311

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 0 PPM FEMALE

DISP: Terminal Sacrifice

HISTO: 863133

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Ovary	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Inflammation	Chronic Active, Minimal
		Mixed Cell Focus	
		Necrosis	Coagulative, Minimal
Note: NECROSIS TGLs = 6-3			
Note: [ MIXED CL FOCUS ] TGLs = 7-3			
[ Necrosis TGLS = 6-3 ]			
Lung	Alveolar Epith	Hyperplasia	Mild
Note: BRONCHIOLAR ADENOMA.			
Note: THE LUNG LESION APPEARS TO BE AN EARLY ALVEOLAR			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Marked
[ Fibroadenoma TGLS = 1,2-13+14 ]			
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Moderate
	Pars Distalis	Hyperplasia	Mild
Note: ANGIECTASIS TGLs = 8-8			
[ Angiectasis TGLS = 8-8 ]			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 311

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 0 PPM FEMALE

**DISP:** Terminal Sacrifice

**HISTO:** 863133

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Polyp Stromal

Note: POLYP STROMAL TGLs = 4,5-6.1

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 312

TRT#: 6

SEX: Female

DAY ON TEST: 517

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863137

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Eye	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Nose	Ovary
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Hyperplasia	Mild
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Mild
Pharynx	Palate	Squamous Cell Carcinoma	
Note: [ SQUAM CEL CARC ] TGLs = 5-13+13.1			
Pituitary Gland	Pars Distalis	Angiectasis	Moderate
Note: [ ANGIECTASIS ] TGLs = 4-8			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 313

TRT#: 6

SEX: Female

DAY ON TEST: 717

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863134

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Ovary	Parathyroid Gland
Skin	Stomach - Forestomach	Trachea	Urinary Bladder

INSUFFICIENT TISSUE

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
Note: ADENOMA	TGLs = 3-10		
Eye	Cornea	Neovascularization	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
		Basophilic Focus	Minimal
Liver		Fatty Change	Mild
		Leukemia Mononuclear	
	Note: LEUKEMIA MONUC	TGLs = 6-3	
Lung		Leukemia Mononuclear	
Lymph Node	Artery	Mineralization	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 313

TRT#: 6

SEX: Female

DAY ON TEST: 717

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863134

ORGAN AND ACCOUNTABLE SITE STATUS

Inflammation

Chronic Active, Mild

Necrosis

Liquifactive, Mild

Note: FIBROSIS TGLs = 4-10

Note: INFLAMMATION TGLs = 4-10

[ Fibrosis TGLS = 4-10 ]

Pancreas

Acinus

Atrophy

Minimal

Inflammation

Chronic Active, Minimal

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA TGLs = 7-8

Salivary Glands

Parotid GI

Atrophy

Minimal

Duct, Submandibul GI

Hyperplasia

Mild

Submandibul GI

Inflammation

Chronic Active, Minimal

Duct, Submandibul GI

Metaplasia

Squamous, Minimal

Spleen

Leukemia Mononuclear

Stomach

Glandular, Mucosa

Dilatation

Mild

Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Polyp Stromal

Note: POLYP STROMAL TGLs = 5-6+6.1+6.2

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 314

TRT#: 6

SEX: Female

DAY ON TEST: 707

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863135

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Nose
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Brain		Hydrocephalus	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Moderate
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas		Inflammation	Chronic Active, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA			
TGLs = 4-8			
Salivary Glands	Duct, Submandibul GI	Inflammation	Chronic Active, Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Minimal

Note: [ CARCINOMA ] TGLs = 3-8

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 315

TRT#: 6

SEX: Female

DAY ON TEST: 643

DOSE: 0 PPM FEMALE

DISP: Moribund

HISTO: 863136

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Skin	Trachea	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-3 [ Leukemia Mononuclear TGLS = 3-3 ]			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Mild
Nose		Leukemia Mononuclear	
Ovary		Leukemia Mononuclear	
Pancreas		Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Moderate
	Pars Distalis	Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 315	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 643
	<b>DOSE:</b> 0 PPM FEMALE	<b>DISP:</b> Moribund	<b>HISTO:</b> 863136

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Leukemia Mononuclear	
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 316

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870347

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Intestine Large - Colon  
Intestine Small - Jejunum  
Parathyroid Gland  
Urinary Bladder

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Salivary Glands

Brain  
Intestine Small - Duodenum  
Nose  
Stomach - Forestomach

Esophagus  
Intestine Small - Ileum  
Ovary  
Trachea

MISSING

Clitoral Gland

OBSERVATIONS

Adrenal Gland  
Note: CONGESTION TGLs = 16-8

Cortex

Congestion

Mild

Bone  
Note: HYPEROSTOSIS TGLs = 14-14

Cranium

Hyperostosis

Minimal

Heart

Cardiomyopathy  
Leukemia Mononuclear

Mild

Intestine Large  
Kidney

Cecum

Parasite Metazoan  
Leukemia Mononuclear  
Nephropathy

Minimal

Liver

Bile Duct

Hepatodiaphragmatic Nodule  
Hyperplasia  
Hyperplasia  
Leukemia Mononuclear

Mild

Mild

Note: HDN TGLs = 12-3  
Note: [ HYPERPLASIA ] TGLs = 13,18-3+3.1

Lung

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 11-1+2

Lymph Node

Mesenteric  
Mandibular  
Mediastinal  
Mesenteric  
Pancreatic

Infiltration Cellular  
Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear

Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 316

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870347

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 6-9

Note: LEUKEMIA MONUC TGLs = 9-9

[ Leukemia Mononuclear TGLS = 10-2 ]

[ Leukemia Mononuclear TGLS = 8-7.1+8 ]

Mammary Gland

Fibroadenoma

Hyperplasia

Moderate

Note: HYPERPLASIA TGLs = 4,7-13.1

[ Fibroadenoma TGLS = 2-13+13.1 ]

Pancreas

Acinus

Atrophy

Minimal

Pituitary Gland

Pars Distalis

Leukemia Mononuclear

Adenoma

Leukemia Mononuclear

Skin

Note: ADENOMA TGLs = 15-8

Acanthosis

Mild

Hyperkeratosis

Minimal

Hyperplasia

Basal Cell, Minimal

[ Acanthosis TGLS = 1-10 ]

[ Hyperkeratosis TGLS = 1-10 ]

[ Hyperplasia TGLS = 1-10 ]

Spleen

Depletion Lymphoid

Moderate

Leukemia Mononuclear

Stomach

Note: LEUKEMIA MONUC TGLs = 7-3

Glandular, Mucosa

Dilatation

Mild

Thymus

Leukemia Mononuclear

Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Polyp Stromal

[ Polyp Stromal TGLS = 5-6.1 ]

Vagina

Exudate

Moderate

[ Exudate TGLS = 3-6 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 317

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870348

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	Uterus

MISSING

Nose	Pituitary Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
		Hyperplasia	Moderate
[ Adenoma TGLS = 1-10 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Minimal
Note: HDN	TGLs = 4-3		
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mediastinal	Hemorrhage	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLS = 5-2 ]			
Mammary Gland		Hyperplasia	Moderate
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 317

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870348

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 318

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870345

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone Marrow	Brain	Esophagus
Harderian Gland	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Ovary	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Bone	Cranium	Osteopetrosis	Mild
	Sternum	Osteopetrosis	Moderate
Note: OSTEOPETROSIS TGLs = 6-12+14			
Clitoral Gland		Adenoma	
Note: ADENOMA TGLs = 3-10+10.1			
Eye	Cornea	Inflammation	Chronic Active, Moderate
	Cornea	Neovascularization	Mild
Note: INFLAMMATION TGLs = 12-13			
Heart		Cardiomyopathy	Minimal
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 4,5-4			
Lacrimal Gland		Inflammation	Chronic, Minimal
Liver		Basophilic Focus	Minimal
		Cytoplasmic Alteration	Mild
		Inflammation	Chronic Active, Minimal
Lymph Node	Mediastinal	Hyperplasia	Plasma Cell, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 10-2			
Mammary Gland		Hyperplasia	Moderate
Note: HYPERPLASIA TGLs = 1,2-10+10.1			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 318

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870345

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 7-8		
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 319

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870346

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Trachea	Urinary Bladder
Uterus			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Congestion	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Note: CONGESTION	TGLs = 12-8		
Clitoral Gland		Adenocarcinoma	
		Inflammation	Chronic Active, Minimal
Note: ADENOCARC	TGLs = 2-10.1+10.2		
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Transit Epithe	Mineralization	Minimal
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 3-9		
Note: LEUKEMIA MONUC	TGLs = 8-2		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 319

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870346

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 1-13 ]			
Nose		Inflammation	Chronic Active, Moderate
		Metaplasia	Squamous, Moderate
	Mucosa	Ulcer	Mild
Pancreas	Acinus	Atrophy	Mild
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Minimal
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-3.1		
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 320

TRT#: 7

SEX: Female

DAY ON TEST: 700

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870349

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Skin	Stomach - Forestomach	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Clitoral Gland		Adenoma	
Note: ADENOMA	TGLs = 3-10		
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-3		
Note: FATTY CHANGE	TGLs = 14-3		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 15-1+2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-9		
Note: LEUKEMIA MONUC	TGLs = 5-9		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 320

TRT#: 7

SEX: Female

DAY ON TEST: 700

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870349

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 11-2

Mammary Gland

Hyperplasia

Marked

Nose

Inflammation

Chronic Active, Minimal

Ovary

Leukemia Mononuclear

Pancreas

Leukemia Mononuclear

Vacuolization Cytoplasmic

Mild

Pituitary Gland

Pars Distalis

Cyst

Minimal

Pars Distalis

Hyperplasia

Moderate

Note: HYPERPLASIA TGLs = 10-8

Salivary Glands

Submandibul GI

Leukemia Mononuclear

Spleen

Depletion Lymphoid

Moderate

Fibrosis

Mild

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 6-3.1 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Glandular

Fibrosis

Minimal

Thymus

Leukemia Mononuclear

Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

Uterus

Inflammation

Acute, Mild

Leukemia Mononuclear

Polyp Stromal

Note: POLYP STROMAL TGLs = 4-6

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 321	<b>TRT#:</b> 7	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 455
	<b>DOSE:</b> 2,000 PPM FEM	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853155

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Bone	Bone Marrow	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Nose	Stomach - Forestomach	Stomach - Glandular	

---

**OBSERVATIONS**

Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Mild
		Inflammation	Chronic, Minimal
Note: CLEAR CL FOCUS TGLs = 1-3			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: PIGMENT TGLs = 2-8			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 322

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870352

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Nose
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Hyperplasia	Mild
		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Mild
		Inflammation	Chronic Active, Mild
Note: FIBROSIS TGLs = 2-13			
Note: INFLAMMATION TGLs = 2-13			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
		Pigmentation	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Mild
Note: ADENOMA TGLs = 5-8.1			
Salivary Glands	Duct, Submandibul GI	Inflammation	Chronic Active, Minimal
	Sublingul GI	Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 322

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870352

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Cervix	Cyst	Marked
		Inflammation	Acute, Marked

Note: NEUTROPHILS AND KERATINIZED DEBRIS.

Note: THE CERVICAL CYST IN THE UTERUS WAS FILLED WITH

[ Cyst TGLS = 1-6.1 ]

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PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 323

TRT#: 7

SEX: Female

DAY ON TEST: 444

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870353

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	

MISSING

Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 13-5			
Clitoral Gland		Leukemia Mononuclear	
Eye		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver		Fatty Change	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-3			
Note: FATTY CHANGE TGLs = 9-3			
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-9.1			
Mammary Gland		Hyperplasia	Mild
Nose		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 323	<b>TRT#:</b> 7	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 444
	<b>DOSE:</b> 2,000 PPM FEM	<b>DISP:</b> Moribund	<b>HISTO:</b> 870353

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Minimal
	Pars Distalis	Leukemia Mononuclear	
Note: ADENOMA	TGLs = 10-8		
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Leukemia Mononuclear	
Uterus		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 324

TRT#: 7

SEX: Female

DAY ON TEST: 733

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870351

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Ovary	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Trachea	Urinary Bladder
Uterus			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Note: HYPERPLASIA	TGLs = 6-8		
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Fibrosis	Mild
		Inflammation	Chronic Active, Minimal
Note: FIBROSIS	TGLs = 8-3		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Moderate
[ Fibroadenoma TGLS = 1,2,3-13+13.1+14 ]			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 324

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870351

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 325

TRT#: 7

SEX: Female

DAY ON TEST: 733

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870350

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Hematopoietic Cell Proliferation	Minimal
	Cortex	Hyperplasia	Minimal
Note: 1991 CONVERSION DISCREPANCY. ORIGINAL DIAGNOSIS SITE NOT SPECIFIED.			
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Galactocele	
		Hyperplasia	Moderate
Note: [ GALACTOCELE ] TGLs = 1,2-10+10.1 [ Hyperplasia TGLS = 3-13+10+10.1 ]			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus	Endometrium	Hyperplasia	Mild
[ Hyperplasia TGLS = 4-6 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 326

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870354

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Nose	Ovary	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
Clitoral Gland		Adenocarcinoma	
[ Adenocarcinoma TGLS = 2-10.1 ]			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Necrosis	Coagulative, Mild
Note: NECROSIS	TGLs = 3-3		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
[ Fibroadenoma TGLS = 1-13+13.1 ]			
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild

PRIMARY CAUSE OF DEATH

-

Animal Note: OF THIS ANIMAL ARE VERY PALE.

Animal Note: THE EOSIN AND HEMATOXYLIN STAINING ON THE TISSUES

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 327

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 457

**DOSE:** 2,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853157

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Nose	Stomach - Forestomach	Stomach - Glandular	

**OBSERVATIONS**

Clitoral Gland		Inflammation	Chronic, Minimal
Note: INFLAMMATION TGLs = 1-10			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: PIGMENT TGLs = 3-7.1+8,4-9			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 328

TRT#: 7

SEX: Female

DAY ON TEST: 700

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870355

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Islets, Pancreatic
Lung	Ovary	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Intestine Small - Jejunum

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Mild
		Inflammation	Chronic Active, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA TGLs = 3-9			
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-8.1			
Stomach	Glandular, Mucosa	Dilatation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 329

TRT#: 7

SEX: Female

DAY ON TEST: 457

DOSE: 2,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853156

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Nose	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland		

OBSERVATIONS

Clitoral Gland		Adenoma	
Note: [ ADENOMA ] TGLs = 6-10		Inflammation	Chronic, Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: PIGMENT TGLs = 5-8			
Ovary	Periovarn Tiss	Cyst	Marked
Note: CYST TGLs = 1-6			
Stomach			
Note: MUSCULAR LAYER.			
Note: A SEGMENT OF THE WALL OF THE FORESTOMACH LACKS THE			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 330

TRT#: 7

SEX: Female

DAY ON TEST: 654

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870356

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Eye	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic Adenocarcinoma	
Clitoral Gland	[ Adenocarcinoma TGLS = 3,5-10.1+10.2 ]		
		Cardiomyopathy	Minimal
Heart		Hyperplasia	Minimal
	Kidney	Transit Epithe	Leukemia Mononuclear
Liver			Nephropathy
		Basophilic Focus	Minimal
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-3 ]			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 10-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Mild
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 330

TRT#: 7

SEX: Female

DAY ON TEST: 654

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870356

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
	Pars Distalis	Adenoma	Multiple
	Pars Distalis	Cyst	Minimal
		Hyperplasia	Mild
Note: ADENOMA	TGLs = 12-8		
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
[ Depletion Lymphoid TGLS = 6-3+3.1 ]			
[ Leukemia Mononuclear TGLS = 6-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	Follicular Cel	Cyst	Mild
	C Cell	Hyperplasia	Minimal
Tongue		Hyperplasia	Squamous, Mild
Note: [ HYPERPLASIA ]	TGLs = 9-13		
Uterus		Hydrometra	Minimal
		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 331

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870357

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
[ Adenoma TGLS = 2-10.1 ]			
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA.			
Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Minimal
[ Hyperplasia TGLS = 1-10 ]			
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA TGLs = 5-8			
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 331

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870357

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Uterus

Cervix

Cyst

Marked

Inflammation

Acute, Moderate

Note: CYST TGLs = 3-6.1

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 332

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870358

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenocarcinoma	
[ Adenocarcinoma TGLS = 1,4-10.1 ]			
Heart		Cardiomyopathy	Minimal
	Atrium	Thrombosis	Minimal
Intestine Large	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Mixed Cell Focus	Mild
Note: MIXED CL FOCUS TGLs = 7-3.1			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Adenocarcinoma	
		Hyperplasia	Moderate
[ Adenocarcinoma TGLS = 2-13+13.1 ]			
[ Hyperplasia TGLS = 3-10+13+13.1 ]			
Nose		Inflammation	Chronic Active, Moderate
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED IN			
Note: THE LUMEN OF THE NOSE.			
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-8.1			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 332

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870358

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 333

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 2,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853159

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Bone  
Intestine Large - Rectum  
Nose

Bone Marrow  
Intestine Small - Duodenum  
Stomach - Forestomach

Intestine Large - Cecum  
Intestine Small - Ileum  
Stomach - Glandular

Intestine Large - Colon  
Intestine Small - Jejunum

---

**OBSERVATIONS**

Lymph Node

Mesenteric  
Mesenteric

Infiltration Cellular  
Pigmentation

Histiocyte, Minimal  
Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 334	<b>TRT#:</b> 7	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 457
	<b>DOSE:</b> 2,000 PPM FEM	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853158

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Bone	Bone Marrow	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Lung	Stomach - Forestomach	Stomach - Glandular	

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**MISSING**

Nose

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**OBSERVATIONS**

Kidney		Nephropathy	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

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Note: PIGMENT TGLs = 6-7.2+8

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PRIMARY CAUSE OF DEATH

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 335

TRT#: 7

SEX: Female

DAY ON TEST: 694

DOSE: 2,000 PPM FEM

DISP: Dead

HISTO: 870359

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Mild
	Rectum	Autolysis	Mild
Intestine Small	Duodenum	Autolysis	Mild
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Mild
Kidney		Autolysis	Moderate
		Nephropathy	Minimal
		Basophilic Focus	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
		Vacuolization Cytoplasmic	Mild
		Adenoma	
Pituitary Gland	Pars Distalis		
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	

Note: LEUKEMIA MONUC TGLs = 3-3

Note: ADENOMA TGLs = 4-8.1

[ Leukemia Mononuclear TGLS = 1,2-3.1+3.2 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 335

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 694

**DOSE:** 2,000 PPM FEM

**DISP:** Dead

**HISTO:** 870359

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular	Autolysis	Mild
	Glandular, Mucosa	Dilatation	Minimal
Urinary Bladder		Autolysis	Moderate

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 336

TRT#: 7

SEX: Female

DAY ON TEST: 595

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870363

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Ovary	Pancreas
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Minimal
[ Fibroadenoma TGLS = 1-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 337

TRT#: 7

SEX: Female

DAY ON TEST: 733

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870360

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	Minimal
Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL			
Note: LEUKEMIA.			
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 2-13+13.1 ]			
[ Hyperplasia TGLS = 1-10 ]			
Pancreas	Acinus	Atrophy	Minimal
		Ectopic Liver	
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 337

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870360

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Salivary Glands	Pars Distalis Submandibul GI Duct, Submandibul GI	Hyperplasia Inflammation Metaplasia Leukemia Mononuclear	Mild Chronic Active, Minimal Squamous, Mild
Spleen			
Stomach	Glandular, Mucosa	Dilatation	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 338

TRT#: 7

SEX: Female

DAY ON TEST: 667

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870361

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Parathyroid Gland
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
	Atrium	Thrombosis	Marked
Note: THROMBUS TGLs = 11-2			
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Fatty Change	Minimal
		Hepatodiaphragmatic Nodule	
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 13-3+3.2			
Note: HDN TGLs = 14-3.2			
Lung	Alveolar Epith	Hyperplasia	Mild
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Marked
Note: FIBROADENOMA TGLs = 2-13			
[ Hyperplasia TGLS = 1-10+13 ]			
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 338	<b>TRT#:</b> 7	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 667
	<b>DOSE:</b> 2,000 PPM FEM	<b>DISP:</b> Moribund	<b>HISTO:</b> 870361

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas		Metaplasia	Squamous, Mild
Pituitary Gland		Vacuolization Cytoplasmic	Mild
	Pars Distalis	Adenoma	Multiple
	Pars Distalis	Angiectasis	Minimal
	Pars Intermed	Angiectasis	Moderate
	Pars Distalis	Cyst	Mild
Note: ANGIECTASIS	TGLs = 17-8.1		
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 339

TRT#: 7

SEX: Female

DAY ON TEST: 622

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870362

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Nose	Ovary	Pancreas
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Fatty Change	Mild
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Minimal
Note: HDN	TGLs = 2-3		
	[ Hepatodiaphragmatic Nodule TGLS = 4,5-3 ]		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Parotid GI	Schwannoma Malignant	
	Submandibul GI	Schwannoma Malignant	
Note: [ SCHWANNOMA MAL ]	TGLs = 1-13.1		
Note: [ SCHWANNOMA MAL ]	TGLs = 1-13+13.1		
Skin	Subcut Tiss	Schwannoma Malignant	
Note: [ SCHWANNOMA MAL ]	TGLs = 1-13+13.1		
Stomach	Glandular	Necrosis	Coagulative, Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 339

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 622

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870362

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 340

TRT#: 7

SEX: Female

DAY ON TEST: 560

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870364

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Esophagus	Eye	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Islets, Pancreatic
Parathyroid Gland	Skin	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Infarct	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 10-5+5.1		
Note: INFARCT	TGLs = 10-5+5.1		
Clitoral Gland		Adenoma	
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Small	Jejunum	Autolysis	Mild
	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver		Fatty Change	Moderate
		Leukemia Mononuclear	
Note: FATTY CHANGE	TGLs = 3-3		
Note: LEUKEMIA MONUC	TGLs = 5,6-3		
	[ Leukemia Mononuclear TGLs = 12-3 ]		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-2		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 340

TRT#: 7

SEX: Female

DAY ON TEST: 560

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870364

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-2		
Note: LEUKEMIA MONUC	TGLs = 8-9		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Ovary		Leukemia Mononuclear	
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Leukemia Mononuclear	
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperplasia	Squamous, Minimal
	Forestomach	Ulcer	Minimal
Uterus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 341

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870366

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Ovary	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland	Duct	Dilatation	Minimal
Note: DILATATION TGLs = 5-10			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Moderate
Liver		Basophilic Focus	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-13 ]		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Cytoplasmic Alteration	Minimal
		Inflammation	Chronic Active, Minimal
		Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8.1 ]			
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 4-6+6.1 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 341

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870366

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 342

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870365

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
			[ Nephropathy TGLS = 3-4 ]
Liver		Basophilic Focus	Minimal
		Hyperplasia	Lymphoid, Marked
		Inflammation	Chronic Active, Marked
			Note: WITHIN THE LIVER WERE SEVERAL SMALL TO LARGE AGGREGATES
			Note: INFLAMMATION TGLs = 4-3
			Note: OF LYMPHOCYTES ADMIXED WITH HISTIOCYTES. THIS APPEARS
			Note: TO BE AN INFLAMMATORY RATHER THAN NEOPLASTIC LESION.
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mediastinal	Hemorrhage	Mild
	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
			Note: HYPERPLASIA TGLs = 8-2
			[ Hyperplasia TGLS = 7,8-2 ]
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
			[ Fibroadenoma TGLS = 1-13 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 342

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870365

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 343

TRT#: 7

SEX: Female

DAY ON TEST: 591

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870368

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Esophagus	Intestine Large - Rectum	Islets, Pancreatic
Skin	Thyroid Gland	Trachea	

INSUFFICIENT TISSUE

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Note: LEUKEMIA MONUC	TGLs = 9-8		
Bone Marrow	Sternal	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Clitoral Gland		Adenoma	
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 3-10		
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Colon	Leukemia Mononuclear	
Intestine Small	Duodenum	Leukemia Mononuclear	
	Ileum	Leukemia Mononuclear	
	Jejunum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Note: LEUKEMIA MONUC	TGLs = 10-4		
Liver		Fatty Change	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 13-3+3.1		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 12-1+1.1+2		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 343

TRT#: 7

DOSE: 2,000 PPM FEM

SEX: Female

DISP: Moribund

DAY ON TEST: 591

HISTO: 870368

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Axillary	Leukemia Mononuclear	
	Bronchial	Leukemia Mononuclear	
	Lumbar	Leukemia Mononuclear	
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 14-14		
Note: LEUKEMIA MONUC	TGLs = 8,11-2.1		
Note: LEUKEMIA MONUC	TGLs = 7-13		
Note: LEUKEMIA MONUC	TGLs = 6-8.1		
Note: LEUKEMIA MONUC	TGLs = 6-7.1+8.1		
Note: LEUKEMIA MONUC	TGLs = 17-15		
	[ Leukemia Mononuclear TGLS = 2-9 ]		
Mammary Gland		Hyperplasia	Mild
		Leukemia Mononuclear	
		Leukemia Mononuclear	
Mesentery			
Note: LEUKEMIA MONUC	TGLs = 16-15		
Nose		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Ovary		Leukemia Mononuclear	
Pancreas		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-9		
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 15-8		
Note: LEUKEMIA MONUC	TGLs = 15-8		
Salivary Glands	Sublingual GI	Leukemia Mononuclear	
	Submandibular GI	Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 343

TRT#: 7

SEX: Female

DAY ON TEST: 591

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870368

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: LEUKEMIA MONUC TGLs = 4-3+3.1

Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
	Forestomach	Ulcer	Mild

Note: HYPERPLASIA TGLs = 18-7

Note: HYPERKERATOSIS TGLs = 18-7

Note: LEUKEMIA MONUC TGLs = 18-7

Thymus		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	
Uterus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 344

TRT#: 7

SEX: Female

DAY ON TEST: 731

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870367

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Pancreas	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Capsule	Fibrosis	Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
[ Adenoma TGLS = 2-10.1 ]			
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Note: NEPHROPATHY	TGLs = 6,7-4		
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ EOSIN FOCUS ]	TGLs = 9-3.1		
Lung	Alveolar Epith	Hyperplasia	Moderate
		Inflammation	Chronic Active, Moderate
	Artery	Mineralization	Minimal
Note: HYPERPLASIA	TGLs = 8-1+2		
Note: INFLAMMATION	TGLs = 8-1+2		
Lymph Node	Bronchial	Fibrosis	Mild
	Bronchial	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 344

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870367

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: FIBROSIS TGLs = 14-13

Note: HYPERPLASIA TGLs = 14-13

Mammary Gland

[ Hyperplasia TGLs = 1-10 ]

Hyperplasia

Mild

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA TGLs = 11-8

Salivary Glands

Parotid GI

Atrophy

Minimal

Stomach

Glandular, Mucosa

Dilatation

Minimal

Thyroid Gland

Follicular Cel

Hyperplasia

Minimal

Note: HYPERPLASIA TGLs = 12-8

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 345

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 457

**DOSE:** 2,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853160

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Bone	Bone Marrow	Eye	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Nose		

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**OBSERVATIONS**

Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Stomach	Forestomach, Muscularis	Mineralization	Minimal
	Glandular, Muscularis	Mineralization	Minimal

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**PRIMARY CAUSE OF DEATH**

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 346

TRT#: 7

SEX: Female

DAY ON TEST: 615

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870372

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Eye	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Spleen	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Clitoral Gland		Hyperplasia	Marked
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 5,6-4			
Liver		Degeneration	Mild
		Fatty Change	Mild
Note: LOBULAR DISTRIBUTION. HEPATOCYTES IN CENTRIOLOBULAR			
Note: AREAS ALSO APPEAR TO BE DEGENERATED.			
Note: THE FATTY CHANGE IN THE LIVER APPEARS TO HAVE A CENTRI-			
Note: FATTY CHANGE TGLs = 8-3			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 9-8.1			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Ulcer	Marked
Note: HYPERKERATOSIS TGLs = 7,10-7.2			
Note: HYPERPLASIA TGLs = 7,10-7.2			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 346

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 615

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870372

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ULCER TGLs = 7,10-7.2

Thyroid Gland

C Cell

Hyperplasia

Minimal

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**PRIMARY CAUSE OF DEATH**

-

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Animal Note: THE TISSUES ON THIS ANIMAL AND THE PREVIOUS ONE WERE

Animal Note: UNDER STAINED.

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 347

TRT#: 7

SEX: Female

DAY ON TEST: 702

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870370

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Heart	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Nose	Ovary	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	Uterus

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Hyperplasia	Marked
		Inflammation	Chronic Active, Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 1-13+13.1 ]			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 348

TRT#: 7

SEX: Female

DAY ON TEST: 702

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870369

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Esophagus	Eye
Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Trachea
Urinary Bladder			

MISSING

Intestine Large - Rectum	Mammary Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Minimal
Bone Marrow	Sternal	Leukemia Mononuclear	
	Sternal	Myelofibrosis	Mild
Brain		Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Mild
Kidney		Leukemia Mononuclear	
Liver		Fatty Change	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-3-3.1 [ Leukemia Mononuclear TGLS = 9-3+3.1 ]			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 11,17,18-1+2			
Lymph Node	Bronchial	Leukemia Mononuclear	
	Lumbar	Leukemia Mononuclear	
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 10-14			
Note: LEUKEMIA MONUC TGLs = 13-2.1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 348

TRT#: 7

SEX: Female

DAY ON TEST: 702

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870369

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 6-9.1

Note: LEUKEMIA MONUC TGLs = 3-9

Note: LEUKEMIA MONUC TGLs = 19-1

Note: LEUKEMIA MONUC TGLs = 7-8

Ovary

Leukemia Mononuclear

Pancreas

Acinus

Atrophy

Moderate

Inflammation

Chronic Active, Mild

Vacuolization Cytoplasmic

Minimal

Pituitary Gland

Pars Distalis

Hyperplasia

Mild

Pars Distalis

Leukemia Mononuclear

Note: [ HYPERPLASIA ] TGLs = 14-8

Spleen

Depletion Lymphoid

Marked

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 15,16-3.1+3.2 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Thymus

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 12-2.1

Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Endometrium

Hyperplasia

Minimal

Vagina

Exudate

Marked

Note: INFLAMMATORY CELLS.

Note: EXUDATE TGLs = 5-6.1

Note: THE VAGINAL EXUDATE CONTAINED LARGE NUMBERS OF ACUTE

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 349

TRT#: 7

SEX: Female

DAY ON TEST: 552

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870371

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Clitoral Gland	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Ovary
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Eye	Retina	Degeneration	Moderate
Heart		Cardiomyopathy	Minimal
Kidney		Hydronephrosis	Mild
		Hydronephrosis	Marked
		Nephropathy	Marked
<p>Note: HYDRONEPHROSIS TGLs = 3-4  Note: HYDRONEPHROSIS TGLs = 7-4  Note: BOTH KIDNEYS REVEAL HYDRONEPHROSIS, IN ONE IT IS MILD  Note: AND THE OTHER MARKED.  [ Hydronephrosis TGLS = 3-4 ]</p>			
Liver		Inflammation	Chronic Active, Minimal
Lung		Sarcoma	Metastatic (Mesentery)
<p>Note: SARCOMA TGLs = 6-1</p>			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Mesentery		Sarcoma	
<p>Note: AND INTERCONNECTED BUNDLES.  Note: THE MASS ARISING IN THE MESENTERY WAS COMPOSED OF SHEETS  Note: SARCOMA TGLs = 4-14</p>			
Pancreas		Inflammation	Chronic Active, Mild
Pituitary Gland	Pars Distalis	Angiectasis	Mild
<p>Note: [ ANGIECTASIS ] TGLs = 5-8</p>			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 349

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 552

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870371

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular, Mucosa

Dilatation

Minimal

Uterus

Polyp Stromal

Note: POLYP STROMAL TGLs = 2-6

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:12  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 350	<b>TRT#:</b> 7	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 455
	<b>DOSE:</b> 2,000 PPM FEM	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853161

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Bone	Bone Marrow	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Nose	Stomach - Forestomach	Stomach - Glandular	

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**OBSERVATIONS**

Liver		Inflammation	Granulomatous, Minimal
Note: A RARE FOCAL GRANULOMA COMPOSED OF HISTIOCYTIC CELLS Note: SURROUNDED BY MONONUCLEAR CELLS WAS NOTED.			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

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PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 351

TRT#: 7

SEX: Female

DAY ON TEST: 552

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870377

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Pancreas	Parathyroid Gland	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

MISSING

Clitoral Gland

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Brain		Hydrocephalus	Minimal
Note: PROBABLY RELATED TO PRESSURE FROM THE PITUITARY MASS.			
Note: SLIGHT DILATATION OF THE LATERAL VENTRICLES WAS NOTED			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	Minimal
Note: MIXED CL FOCUS TGLs = 3-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
[ Fibroadenoma TGLs = 1-13+13.1+13.2 ]			
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLs = 2-8.1 ]			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 351

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 552

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870377

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular, Mucosa

Dilatation

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 352

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870375

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone Marrow	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Ovary	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Mild
Bone	Cranium	Osteopetrosis	Minimal
	Sternum	Osteopetrosis	Marked
Note: OSTEOPETROSIS TGLs = 8-12+14			
Clitoral Gland		Inflammation	Chronic Active, Minimal
Eye		Cataract	Moderate
	Retina	Degeneration	Moderate
[ Cataract TGLS = 1-13 ]			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
Note: FIBROADENOMA TGLs = 2-10			
[ Fibroadenoma TGLS = 3-10 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Minimal
Note: ADENOMA TGLs = 9-8			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 352

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870375

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Sublingul GI	Metaplasia	Squamous, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Thymus		Cyst	Marked
Note: CYST	TGLs = 10-2		
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Polyp Stromal	
Note: POLYP STROMAL	TGLs = 5-6.1		

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 353

TRT#: 7

SEX: Female

DAY ON TEST: 700

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870376

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Clitoral Gland
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Brain		Hydrocephalus	Minimal
Note: PRESSURE FROM THE PITUITARY TUMOR.			
Note: A SLIGHT DEGREE OF ACQUIRED HYDROCEPHALUS WAS NOTED			
Note: IN THE LATERAL VENTRICLES PROBABLY RELATED TO THE			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Mild
		Mixed Cell Focus	Mild
Note: INFLAMMATION TGLs = 3-3+3.1			
[ Mixed Cell Focus TGLS = 7-3+3.1 ]			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 5,6-8.1			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	Follicular Cel	Adenocarcinoma	
	C Cell	Hyperplasia	Minimal
	Follicular Cel	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:12

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 353

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 700

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870376

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: MADE BASED UPON THE PLEOMORPHISM, CAPSULAR INVASION,  
Note: MARKED CROWDING, AND BASOPHILIA OF THE CELL POPULATION.  
Note: THE DIAGNOSIS OF FOLLICULAR CELL ADENOCARCINOMA WAS

Uterus

Endometrium

Hydrometra

Hyperplasia

Mild

Mild

Note: HYDROMETRA TGLs = 8-6

Note: HYPERPLASIA TGLs = 8-6

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:12

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 354

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870373

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Clitoral Gland
Esophagus	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Spleen
Thymus	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Vacuolization Cytoplasmic	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
	[ Nephropathy TGLS = 3-4 ]		
Liver		Angiectasis	Mild
		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
	[ Basophilic Focus TGLS = 5-3 ]		
Lymph Node	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA	TGLs = 9-2		
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Mild
	[ Fibroadenoma TGLS = 1,2-13+13.1+14 ]		
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Skin	Subcut Tiss	Schwannoma Malignant	
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 354

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870373

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: HYPERPLASIA TGLs = 7-7.2

Note: INFLAMMATION TGLs = 7-7.2

Note: HYPERKERATOSIS TGLs = 7-7.2

Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 355

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870374

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Hyperplasia	Mild
Clitoral Gland		Adenoma	
[ Adenoma TGLS = 1-10 ]			
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Mild
Note: CLEAR CL FOCUS TGLs = 4-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Moderate
Note: [ ANGIECTASIS ] TGLs = 3-8			
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Sublingul GI	Inflammation	Chronic, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 356

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Dead

HISTO:

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Islets, Pancreatic	Lung	Nose	Ovary
Pancreas	Parathyroid Gland	Skin	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Autolysis	Moderate
	Medulla	Autolysis	Moderate
Clitoral Gland		Adenoma	
Note: [ ADENOMA ] TGLs = 3-10			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Moderate
	Rectum	Autolysis	Moderate
Intestine Small	Duodenum	Autolysis	Minimal
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Moderate
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Moderate
Note: NEPHROPATHY TGLs = 5-4			
Liver		Clear Cell Focus	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Moderate
[ Fibroadenoma TGLS = 1,2-14 ]			
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 10-8.1			
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 356

**TRT#:** 7  
**DOSE:** 2,000 PPM FEM

**SEX:** Female  
**DISP:** Dead

**DAY ON TEST:** 732  
**HISTO:**

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen	Submandibul GI	Inflammation Depletion Lymphoid Leukemia Mononuclear	Chronic Active, Minimal Mild
Note: DEPLET LYMPH TGLs = 4-3			
Stomach	Forestomach	Ulcer	Mild
Note: ULCER TGLs = 13-7.2			

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 357

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870378

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Nose
Ovary	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Mild
		Inflammation	Chronic Active, Minimal
Lymph Node	Mediastinal	Hemorrhage	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HEMORRHAGE TGLs = 6,7-2.1			
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 1-13 ]			
Mesentery		Fibrosis	Mild
		Inflammation	Chronic Active, Mild
		Necrosis	Liquifactive, Moderate
Note: INFLAMMATION TGLs = 8-14			
Note: FIBROSIS TGLs = 8-14			
Note: NECROSIS TGLs = 8-14			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 357

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870378

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland

Pars Distalis

Adenoma

Pars Distalis

Cyst

Minimal

Pars Distalis

Hyperplasia

Minimal

Stomach

Glandular, Mucosa

Dilatation

Mild

Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Polyp Stromal

[ Polyp Stromal TGLS = 2-6.1 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 358

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 2,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853163

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Bone  
Intestine Large - Rectum  
Nose

Bone Marrow  
Intestine Small - Duodenum  
Stomach - Forestomach

Intestine Large - Cecum  
Intestine Small - Ileum  
Stomach - Glandular

Intestine Large - Colon  
Intestine Small - Jejunum

---

**OBSERVATIONS**

Lymph Node

Mesenteric  
Mesenteric

Infiltration Cellular  
Pigmentation

Histiocyte, Minimal  
Minimal

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 359

TRT#: 7

SEX: Female

DAY ON TEST: 457

DOSE: 2,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853162

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Lung	Nose	Stomach - Forestomach	Stomach - Glandular

**OBSERVATIONS**

Clitoral Gland		Inflammation	Chronic, Minimal
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Note: INFLAMMATION TGLs = 1-10

Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

Note: CECAL, COLONIC, OR MESENTERIC.

Note: THERE WAS SOME CONFUSION BETWEEN THE PROSECTOR AND THE

Note: TRIMMER AS TO WHICH NODES WERE PIGMENTED AT NECROPSY.

Note: PRESUMABLY THE NODES OBSERVED BY THE PROSECTOR WERE THE

Pituitary Gland	Pars Distalis	Adenoma	
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Note: ADENOMA TGLs = 4-8

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 360

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870379

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Spleen	Stomach - Forestomach
Thymus	Trachea	Uterus	

MISSING

Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Note: NEPHROPATHY	TGLs = 2-4		
Liver		Basophilic Focus	Mild
		Inflammation	Chronic Active, Minimal
		Mixed Cell Focus	Mild
Note: MIXED CL FOCUS	TGLs = 5-3.1		
Note: INFLAMMATION	TGLs = 4-3+3.1		
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Skin	Subcut Tiss	Cyst Epithelial Inclusion	
	Subcut Tiss	Inflammation	Chronic, Moderate
Note: INFLAMMATION.			
Note: PROSECTOR TO BE CLITORAL GLAND IN ORIGIN APPEARS TO			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 360

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870379

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: THE NATURE OF THE LESION WHICH WAS THOUGHT BY THE

Note: BE AN EPITHELIAL INCLUSION CYST ARISING IN THE AREA OF

Note: THE CLITORAL GLAND WITH EXTENSIVE CHRONIC ACTIVE

[ Cyst Epithelial Inclusion TGLS = 1-10.1 ]

[ Inflammation TGLS = 1-10.1 ]

Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 361

TRT#: 7

SEX: Female

DAY ON TEST: 700

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870383

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Clitoral Gland	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Ovary
Parathyroid Gland	Salivary Glands	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Nose	Pituitary Gland
------	-----------------

OBSERVATIONS

Heart		Cardiomyopathy	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-3			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 1-14+14.1 ]			
Pancreas		Inflammation	Chronic Active, Minimal
Skin	Subcut Tiss	Cyst Epithelial Inclusion	
[ Cyst Epithelial Inclusion TGLS = 2-13 ]			
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 362

TRT#: 7

SEX: Female

DAY ON TEST: 647

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870384

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Ovary	Parathyroid Gland	Skin	Spleen
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Brain		Hydrocephalus	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Inflammation	Chronic Active, Mild
		Mixed Cell Focus	Mild

Note: INFLAMMATION TGLs = 6-3

Note: MULTIPLE VARIABLE SIZED NODULES COMPOSED OF HISTIOCYTES

Note: AND LYMPHOCYTES WERE NOTED THROUGHOUT THE LIVER.

Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 3-13 ]	
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
		Note: ADENOMA TGLs = 7-8.1	
Salivary Glands	Duct, Sublingual GI	Hyperplasia	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Mild
		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 362

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 647

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870384

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Polyp Stromal TGLS = 4-6 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 363

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 457

**DOSE:** 2,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853164

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Bone  
Intestine Large - Rectum  
Nose

Bone Marrow  
Intestine Small - Duodenum  
Stomach - Forestomach

Intestine Large - Cecum  
Intestine Small - Ileum  
Stomach - Glandular

Intestine Large - Colon  
Intestine Small - Jejunum

---

**OBSERVATIONS**

Lymph Node

Mesenteric  
Mesenteric

Infiltration Cellular  
Pigmentation

Histiocyte, Minimal  
Minimal

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 364

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870382

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Ovary	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
[ Adenoma TGLS = 2-8 ]			
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Glandular	Hyperplasia	Mild
Note: HYPERPLASIA TGLs = 3-7.1			
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 365

TRT#: 7

SEX: Female

DAY ON TEST: 733

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870381

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Hyperplasia	Marked
		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
Pancreas		Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Mild
	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus		Hydrometra	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 366

TRT#: 7

SEX: Female

DAY ON TEST: 598

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870389

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Heart	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Pancreas
Parathyroid Gland	Pituitary Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Inflammation	Chronic Active, Minimal
	Artery	Mineralization	Minimal
Note: INFLAMMATION TGLs = 5-1+2			
Lymph Node	Mandibular, Sinus	Ectasia	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 3-9			
Note: HYPERPLASIA TGLs = 3-9			
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Foreign Body	Moderate
		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Minimal
Note: IN THE LUMEN OF THE NOSE.			
Note: PLANT MATERIAL SURROUNDED BY NEUTROPHILS WAS NOTED			
Note: INFLAMMATION TGLs = 2-12			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 366

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 598

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870389

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 367

TRT#: 7

SEX: Female

DAY ON TEST: 733

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870387

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Ovary	Parathyroid Gland	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Nose

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	Minimal
[ Hyperplasia TGLS = 2,6-3+3.1 ]			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Minimal
Note: ADENOMA TGLs = 4,5-8.1			
Salivary Glands	Duct, Sublingual GI	Metaplasia	Squamous, Minimal
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 367

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870387

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Uterus

Polyp Stromal

[ Polyp Stromal TGLS = 1-6 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 368

TRT#: 7

SEX: Female

DAY ON TEST: 700

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870388

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-3		
Note: FATTY CHANGE	TGLs = 6-3		
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLs = 2-9 ]			
Mammary Gland		Hyperplasia	Moderate
Ovary		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Cyst	Mild
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 368

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 700

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870388

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Uterus

Endometrium

Angiectasis

Hyperplasia

Mild

Minimal

[ Angiectasis TGLS = 3-6 ]

[ Hyperplasia TGLS = 4-6 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 369

TRT#: 7

SEX: Female

DAY ON TEST: 734

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870385

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Clitoral Gland  
Intestine Large - Rectum  
Islets, Pancreatic  
Skin  
Urinary Bladder

Bone  
Esophagus  
Intestine Small - Duodenum  
Pancreas  
Stomach - Forestomach

Bone Marrow  
Intestine Large - Cecum  
Intestine Small - Ileum  
Parathyroid Gland  
Thymus

Brain  
Intestine Large - Colon  
Intestine Small - Jejunum  
Salivary Glands  
Trachea

OBSERVATIONS

Adrenal Gland  
Heart  
Kidney  
Liver

Cortex

Angiectasis  
Cardiomyopathy  
Nephropathy  
Basophilic Focus  
Hyperplasia  
Leukemia Mononuclear

Minimal  
Mild  
Minimal  
Minimal  
Minimal

Note: LEUKEMIA MONUC TGLs = 5-3

Lung

Note: ALV BRON CARC TGLs = 6-2.1

Lymph Node  
Mammary Gland  
Nose  
Ovary

Mesenteric

Infiltration Cellular  
Hyperplasia  
Inflammation  
Cyst

Histiocyte, Minimal  
Moderate  
Chronic Active, Mild  
Marked

[ Cyst TGLS = 1-6 ]

Pituitary Gland

Note: ADENOMA TGLs = 8-8

Spleen

Pars Distalis

Adenoma  
  
Depletion Lymphoid  
Leukemia Mononuclear

Moderate

Note: LEUKEMIA MONUC TGLs = 4-3

Stomach  
Thyroid Gland  
Uterus

Glandular, Mucosa  
C Cell

Dilatation  
Hyperplasia  
Hydrometra  
Polyp Stromal

Minimal  
Minimal  
Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 369

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 734

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870385

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: POLYP STROMAL TGLs = 2-6.1

[ Polyp Stromal TGLS = 3-6 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 370

TRT#: 7

SEX: Female

DAY ON TEST: 734

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870386

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Nose	Ovary	Pancreas
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland	Duct	Adenoma	
		Dilatation	Mild
		[ Adenoma TGLS = 2-10 ]	
		[ Dilatation TGLS = 1-10 ]	
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
		Hepatodiaphragmatic Nodule	
Note: HDN	TGLs = 4-3		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
		[ Hyperplasia TGLS = 3-13 ]	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-8.1		
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 371

TRT#: 7

SEX: Female

DAY ON TEST: 702

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870392

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Mild
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Minimal
		[ Clear Cell Focus TGLS = 4-3.1+3.2 ]	
		[ Hepatodiaphragmatic Nodule TGLS = 3-3.1+3.2 ]	
Lung		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
		[ Fibroadenoma TGLS = 2-13 ]	
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-8		
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 371

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 702

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870392

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 372

TRT#: 7

SEX: Female

DAY ON TEST: 685

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870393

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Spleen
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Mild
Clitoral Gland	Duct	Dilatation	Moderate
		Inflammation	Chronic Active, Moderate
Note: DILATATION TGLs = 3-10.1 [ Dilatation TGLS = 3-10.1 ]			
Heart		Cardiomyopathy	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Marked
Note: NEPHROPATHY TGLs = 5-4			
Liver		Fatty Change	Moderate
Note: FATTY CHANGE TGLs = 6-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Mild
Note: FIBROADENOMA TGLs = 1-13			
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Minimal
Note: ADENOMA TGLs = 7-8			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 372

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 685

**DOSE:** 2,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870393

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Inflammation	Chronic Active, Mild
	Forestomach	Ulcer	Moderate

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 373

TRT#: 7

SEX: Female

DAY ON TEST: 506

DOSE: 2,000 PPM FEM

DISP: Moribund

HISTO: 870394

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
Lung	Artery	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Mineralization	Minimal
Lymph Node		Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Marked
[ Hyperplasia TGLS = 2-10 ]			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 5-8.1			
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 374

TRT#: 7

SEX: Female

DAY ON TEST: 732

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870391

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Ovary
Pancreas	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Minimal
Clitoral Gland	Duct	Dilatation	Mild
		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mediastinal	Hemorrhage	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HEMORRHAGE TGLs = 4-2			
Mammary Gland		Hyperplasia	Mild
[ Hyperplasia TGLS = 1-10 ]			
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 374

**TRT#:** 7

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 2,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870391

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: POLYP STROMAL TGLs = 2,3-6

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 375

TRT#: 7

SEX: Female

DAY ON TEST: 733

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870390

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Jejunum  
Skin  
Uterus

Bone  
Intestine Large - Rectum  
Islets, Pancreatic  
Spleen

Bone Marrow  
Intestine Small - Duodenum  
Nose  
Thymus

Brain  
Intestine Small - Ileum  
Ovary  
Trachea

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland

Cortex  
Cortex

Angiectasis  
Hyperplasia  
Adenoma  
Inflammation

Minimal  
Minimal  
Chronic Active, Minimal

Note: ADENOMA TGLs = 5-10

Eye

Retina

Cataract  
Degeneration

Mild  
Moderate

[ Cataract TGLS = 1-15 ]

Heart

Cardiomyopathy

Minimal

Intestine Large

Cecum  
Colon

Parasite Metazoan  
Parasite Metazoan

Minimal  
Minimal

Kidney

Transit Epithe

Hyperplasia  
Nephropathy

Minimal  
Minimal

Liver

Bile Duct

Cytoplasmic Alteration  
Hyperplasia  
Inflammation  
Necrosis  
Pigmentation

Minimal  
Minimal  
Chronic Active, Mild  
Coagulative, Mild  
Minimal

Note: NECROSIS TGLs = 8-3

Note: INFLAMMATION TGLs = 8-3

Lung

Artery

Mineralization

Minimal

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 375

TRT#: 7

SEX: Female

DAY ON TEST: 733

DOSE: 2,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870390

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland		Hyperplasia	Moderate
Note: HYPERPLASIA	TGLs = 2,3,4-10+13+14		
Pancreas		Cytoplasmic Alteration	Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Minimal
	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Squamous Cell Papilloma	
Note: PAPILLOMA SQUA	TGLs = 9-7.2		
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Inflammation	Chronic Active, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 376

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870295

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Liver	Nose	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Note: 1991 CONVERSION DISCREPANCY. ORIGINAL DIAGNOSIS SITE NOT SPECIFIED.			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Note: HYPERPLASIA TGLs = 1-10.1			
Ovary		Cyst	Mild
[ Cyst TGLS = 2-6 ]			
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Salivary Glands	Sublingual GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Adenoma	
Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 377

TRT#: 8

SEX: Female

DAY ON TEST: 677

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870297

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Eye	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Necrosis	Coagulative, Mild
Note: LEUKEMIA MONUC TGLs = 15-8 [ Leukemia Mononuclear TGLS = 4-8 ]			
Clitoral Gland	Duct	Adenoma	
		Dilatation	Mild
[ Adenoma TGLS = 3-10 ]			
Heart		Cardiomyopathy	Minimal
Kidney		Leukemia Mononuclear	
		Leukemia Mononuclear	
Liver		Nephropathy	Mild
		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
		Necrosis	Coagulative, Minimal
Note: HDN TGLs = 11-3 Note: LEUKEMIA MONUC TGLs = 6-3			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 377

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 677

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870297

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
Note: ADENOMA	TGLs = 8-8		
Salivary Glands	Sublingual GI	Inflammation	Chronic Active, Minimal
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Cyst	Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 378

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870296

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
[ Adenoma TGLS = 2-10.1 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Transit Epithe	Mineralization	Minimal
		Nephropathy	Mild
Liver		Eosinophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
Note: HDN	TGLs = 3-3		
Lung	Artery	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Plasma Cell, Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: HYPERPLASIA	TGLs = 5-9		
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Minimal
Note: ADENOMA	TGLs = 4-8.1		
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 378

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870296

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	Follicular Cel	Cyst	Mild
	C Cell	Hyperplasia	Minimal
Uterus		Polyp Stromal	

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 379

TRT#: 8

SEX: Female

DAY ON TEST: 519

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870299

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Clitoral Gland	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Nose	Parathyroid Gland
Skin	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Minimal
Islets, Pancreatic		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Hyperplasia	Minimal
Mesentery		Leukemia Mononuclear	
		Necrosis	Liquifactive, Mild
Note: LEUKEMIA MONUC TGLs = 3-13 [ Leukemia Mononuclear TGLS = 3-13 ]			
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 379

TRT#: 8

SEX: Female

DAY ON TEST: 519

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870299

**ORGAN AND ACCOUNTABLE SITE STATUS**

Salivary Glands	Pars Nervosa	Leukemia Mononuclear	
Spleen	Submandibul GI	Leukemia Mononuclear	
		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLs = 4-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Leukemia Mononuclear	
Note: HYPERPLASIA TGLs = 7-7.1			
Note: HYPERKERATOSIS TGLs = 7-7.1			
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	
Uterus		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 380

TRT#: 8

SEX: Female

DAY ON TEST: 655

DOSE: 10,000 PPM FEM

DISP: Dead

HISTO: 870298

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Clitoral Gland  
Intestine Large - Rectum  
Islets, Pancreatic  
Salivary Glands  
Thymus  
Uterus

Bone  
Esophagus  
Intestine Small - Duodenum  
Lung  
Skin  
Thyroid Gland

Bone Marrow  
Intestine Large - Cecum  
Intestine Small - Ileum  
Parathyroid Gland  
Spleen  
Trachea

Brain  
Intestine Large - Colon  
Intestine Small - Jejunum  
Pituitary Gland  
Stomach - Glandular  
Urinary Bladder

OBSERVATIONS

Adrenal Gland  
Heart  
Kidney  
  
Liver  
Note: CONGESTION TGLs = 5-3  
Lymph Node  
  
Mammary Gland  
Nose  
Ovary  
Pancreas  
  
Stomach  
  
Note: HYPERKERATOSIS TGLs = 6-7  
Note: HYPERKERATOSIS TGLs = 6-7  
Note: [ HYPERPLASIA ] TGLs = 6-7

Cortex  
  
Renal Tubule  
  
Mandibular, Sinus  
Mesenteric  
  
Acinus  
  
Forestomach  
Forestomach  
Forestomach

Angiectasis  
Cardiomyopathy  
Mineralization  
Nephropathy  
Congestion  
  
Ectasia  
Infiltration Cellular  
Hyperplasia  
Squamous Cell Carcinoma  
Cyst  
Atrophy  
Inflammation  
Hyperkeratosis  
Hyperkeratosis  
Hyperplasia

Mild  
Minimal  
Minimal  
Minimal  
Mild  
  
Minimal  
Histiocyte, Minimal  
Mild  
  
Mild  
Minimal  
Chronic Active, Minimal  
Minimal  
Minimal  
Squamous, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 381

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870301

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Ovary	Parathyroid Gland	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Degeneration	Mild
Note: DEGENERATION.			
Note: ZONE IN THE INNER CORTEX SUGGESTING SOME TYPE OF			
Note: IN ONE ADRENAL GLAND THERE WAS A PALE VACUOLATED			
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 2-10			
Eye		Cataract	Marked
	Retina	Degeneration	Marked
[ Cataract TGLS = 1-13 ]			
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL			
Note: LEUKEMIA WITH SMALL NUMBERS OF NEOPLASTIC CELLS			
Note: IN LIVER SINUSOIDS.			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
Note: FIBROADENOMA TGLs = 4-14			
Note: ULAR TISSUE WITH A LESSER AMOUNT OF CONNECTIVE TISSUE.			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 381

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870301

ORGAN AND ACCOUNTABLE SITE STATUS

Note: THE MAMMARY TUMOR CONTAINED A PREPONDERANCE OF GLAND-

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Cervix	Cyst	Mild
	Endometrium	Hyperplasia	Mild
		Inflammation	Acute, Mild
		Polyp Stromal	

Note: LYSED MAKING INTERPRETATION DIFFICULT.

Note: THE MASS REMOVED FROM THE UTERUS APPEARS TO BE AN

Note: CYST TGLs = 5-6

Note: POLYP STROMAL TGLs = 3-6

Note: ENDOMETRIAL STROMAL POLYP; HOWEVER, IT IS VERY AUTO-

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 382

TRT#: 8

SEX: Female

DAY ON TEST: 414

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870304

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex  
Esophagus  
Nose  
Trachea

Bone  
Intestine Large - Colon  
Parathyroid Gland  
Urinary Bladder

Bone Marrow  
Intestine Large - Rectum  
Skin  
Uterus

Brain  
Islets, Pancreatic  
Thymus

OBSERVATIONS

Adrenal Gland  
Clitoral Gland  
Heart  
Intestine Large  
Intestine Small  
  
Kidney  
Liver

Medulla  
  
Cecum  
Duodenum  
Ileum  
Jejunum

Leukemia Mononuclear  
Inflammation  
Leukemia Mononuclear  
Leukemia Mononuclear  
  
Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear  
Hepatodiaphragmatic Nodule  
Inflammation  
Leukemia Mononuclear

Chronic Active, Minimal

Chronic Active, Minimal

Note: HDN TGLs = 6-3  
Lung  
Lymph Node

Artery  
Mesenteric, Sinus  
Mesenteric  
Mandibular  
Mediastinal  
Mesenteric

Mineralization  
Ectasia  
Infiltration Cellular  
Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear

Minimal  
Mild  
Histiocyte, Minimal

Note: [ LEUKEMIA MONUC ] TGLs = 4-2  
Note: ECTASIA TGLs = 3-8.1  
Note: [ LEUKEMIA MONUC ] TGLs = 1-9+3-8.1  
Mammary Gland  
Ovary  
Pancreas

Hyperplasia  
Leukemia Mononuclear  
Leukemia Mononuclear

Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 382

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 414

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870304

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Cyst	Minimal
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
Spleen		Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 2-3			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
Note: [ LEUKEMIA MONUC ] TGLs = 7,8,9-7.2			
Note: HYPERKERATOSIS TGLs = 7,8,9-7.2			
Note: HYPERPLASIA TGLs = 7,8,9-7.2			
Thyroid Gland		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 383

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870303

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Ovary	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Heart		Cardiomyopathy	Minimal
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Note: RARE MINERALIZATION IN A RENAL TUBULE WAS NOTED.			
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
		Inflammation	Chronic, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
[ Fibroadenoma TGLS = 2-10 ]			
[ Hyperplasia TGLS = 1-10 ]			
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Note: [ HYPERPLASIA ] TGLs = 5-8			
Note: [ HYPERPLASIA ] TGLs = 4,5-8			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 383

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870303

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 384

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870302

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Mild
	[ Adenoma TGLS = 1-10.1 ]		
Heart		Cardiomyopathy	Mild
Kidney	Renal Tubule	Mineralization	Minimal
	Transit Epithe	Mineralization	Minimal
		Nephropathy	Mild
Liver		Clear Cell Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Foreign Body	Minimal
		Inflammation	Chronic Active, Minimal

Note: CROSS SECTIONS OF HAIRS SURROUNDED BY NEUTROPHILS

Note: WERE NOTED IN THE LUMEN OF THE NOSE.

Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 2-8		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 385

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870300

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Ovary		Granulosa Cell Tumor Malignant	
[ Granulosa Cell Tumor Malignant TGLS = 1-6.1 ]			
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-8		
Thymus		Cyst	Minimal
Uterus	Cervix	Cyst	Moderate
		Polyp Stromal	

Note: SEVERAL CYSTS LINED BY STRATIFIED SQUAMOUS CUTANEOUS

Note: TYPE EPITHELIUM AND FILLED WITH KERATINIZED DEBRIS

Note: WERE NOTED IN THE CERVIX.

[ Cyst TGLS = 7-6 ]

[ Polyp Stromal TGLS = 2-6.2 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 386

TRT#: 8

SEX: Female

DAY ON TEST: 700

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870306

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Clitoral Gland
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Adenoma	
	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Brain		Hydrocephalus	Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
		[ Fibroadenoma TGLS = 6-10 ]	
		[ Hyperplasia TGLS = 1,6-10+10.1 ]	
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
		[ Adenoma TGLS = 2-8.1 ]	
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 387

TRT#: 8

SEX: Female

DAY ON TEST: 577

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870309

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

MISSING

Thymus

OBSERVATIONS

Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Note: NEPHROPATHY	TGLs = 2,3-4		
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3 ]			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-2		
Mammary Gland		Hyperplasia	Mild
Nose		Leukemia Mononuclear	
Ovary		Leukemia Mononuclear	
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 387

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 577

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870309

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA TGLs = 7-8.1

Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-3 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 388

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870305

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
		Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus	Cervix	Cyst	Moderate
		Inflammation	Acute, Mild

Note: CYST TGLs = 2-6.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 389

TRT#: 8

SEX: Female

DAY ON TEST: 688

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870307

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Uterus		

MISSING

Clitoral Gland

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Mild
Intestine Small	Ileum	Hyperplasia	Lymphoid, Mild
Kidney	Transit Epithe	Hyperplasia	Moderate
	Pelvis	Inflammation	Acute, Mild
		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
Note: LEUKEMIA WITH A SMALL NUMBER OF LEUKEMIC CELLS IN			
Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL			
Note: LIVER SINUSOIDS.			
Note: HOWEVER, THE CASE IS NOT CLEAR CUT. THE PYELITIS IN			
Note: THE KIDNEY AND THE HEMATOPOIETIC CELL PROLIFERATION			
Note: IN THE SPLEEN SUGGEST POSSIBLE REACTIVE MYELOID			
Note: HYPERPLASIA RATHER THAN NEOPLASIA.			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-10.1+10.2+10.3 ]			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 389

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 688

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870307

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-8 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Urinary Bladder

Inflammation

Chronic Active, Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 390

TRT#: 8

SEX: Female

DAY ON TEST: 680

DOSE: 10,000 PPM FEM

DISP: Dead

HISTO: 870308

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Esophagus	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Benign	
Note: PHEOCHROM BGN TGLs = 9-8			
Bone Marrow	Sternal	Autolysis	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
Intestine Large	Cecum	Autolysis	Marked
	Colon	Autolysis	Marked
	Rectum	Autolysis	Marked
Intestine Small	Duodenum	Autolysis	Marked
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Marked
Kidney		Autolysis	Moderate
		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-3 ]			
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 390	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 680
	<b>DOSE:</b> 10,000 PPM FEM	<b>DISP:</b> Dead	<b>HISTO:</b> 870308

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 6-4 ]			
Mammary Gland		Hyperplasia	Moderate
Pancreas		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
	Pars Distalis	Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3.1+3.2 ]			
Stomach	Glandular	Autolysis	Moderate
Urinary Bladder		Autolysis	Moderate

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 391

TRT#: 8

SEX: Female

DAY ON TEST: 576

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870312

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone Marrow	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Bone	Sternum	Osteopetrosis	Moderate
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
Note: [ ADENOMA ] TGLs = 4-10			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Minimal
Liver		Hematopoietic Cell Proliferation	Minimal
		Necrosis	Coagulative, Mild
Note: NECROSIS TGLs = 8-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Cyst	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Mild
Zymbal's Gland		Carcinoma	
Note: [ CARCINOMA ] TGLs = 2-13			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 392

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870310

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Pancreas	Parathyroid Gland
Skin	Spleen	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Marked
Note: INFLAMMATION TGLs = 3-10.1 [ Adenoma TGLS = 3-10.1 ]			
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Marked
[ Nephropathy TGLS = 5-4 ]			
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Galactocele	Marked
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 2-13 ] [ Galactocele TGLS = 2-13 ]			
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
Note: ADENOMA TGLs = 6-8.1			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

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<b>ANIMAL ID:</b> 392	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> 10,000 PPM FEM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 870310

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Inflammation	Chronic Active, Mild
	Forestomach	Squamous Cell Papilloma	
Note: PAPILLOMA SQUA	TGLs = 7-7		
Note: HYPERPLASIA	TGLs = 7-7.2		
[ Hyperkeratosis	TGLS = 7-7.2 ]		
[ Squamous Cell Papilloma	TGLS = 7-7.2 ]		
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Polyp Stromal	
[ Polyp Stromal	TGLS = 4-6 ]		

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 393

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870311

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Eye		Cataract	Marked
	Retina	Degeneration	Marked
		Phthisis Bulbi	Moderate
[ Cataract TGLS = 1-13 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Rectum	Parasite Metazoan	Mild
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Note: MATERIAL IN THE REGION OF ONE OF THE INCISOR TEETH.			
Note: TEETH ARE NOT IN THE LIST OF TISSUES TO BE EVALUATED.			
Note: THIS ANIMAL HAD A LARGE ABSCESS FILLED WITH PLANT/FOOD			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Moderate
	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Minimal

Note: ANGIECTASIS TGLs = 2-8

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 393

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870311

**ORGAN AND ACCOUNTABLE SITE STATUS**

Spleen

Hyperplasia  
Infiltration Cellular

Lymphoid, Moderate  
Histiocyte, Mild

Note: HYPERPLASIA TGLs = 3-3.1

Note: OF HISTIOCYTES WERE NOTED IN THE LIVER AND WERE

Note: HISTIOCYTIC CELLS WERE NOTED. SIMILAR SMALL NODULES

Note: INFILTRAT CELL TGLs = 3-3.1

Note: DIAGNOSED AS INFLAMMATION CHRONIC.

Note: SEVERAL ENLARGED LYMPHOID NODULES INFILTRATED BY

Stomach

Glandular, Mucosa

Dilatation

Minimal

Uterus

Hydrometra

Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

**ANIMAL ID:** 394

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 10,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853146

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Intestine Large - Colon  
Intestine Small - Jejunum

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

**OBSERVATIONS**

Adrenal Gland  
[ Angiectasis TGLS = 3-8 ]

Cortex

Angiectasis

Mild

Intestine Large  
Liver

Cecum

Parasite Metazoan

Minimal

Basophilic Focus

Minimal

Inflammation

Minimal

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mesenteric

Pigmentation

Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 395	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 457
	<b>DOSE:</b> 10,000 PPM FEM	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853145

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Stomach - Forestomach	Stomach - Glandular

---

**OBSERVATIONS**

Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

Note: PIGMENT TGLs = 1-7.2

Note: BOTH THE MESENTERIC AND CECAL LYMPH NODES SHOWED

Note: SIMILIAR CHANGES; HOWEVER THE TERM CECAL WAS NOT AVAIL-

Note: ABLE IN THE PCT.

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 396

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870314

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	Multiple
		Inflammation	Chronic Active, Minimal
Note: ADENOMA	TGLs = 4-10		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
Lung	Alveolar Epith	Hyperplasia	Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 3-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Ovary		Cyst	Mild
Note: CYST	TGLs = 6-6		
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 397

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870315

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Ovary
Parathyroid Gland	Pituitary Gland	Skin	Spleen
Stomach - Forestomach	Thymus	Tissue NOS	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
Clitoral Gland		Hyperplasia	Marked
		Inflammation	Chronic Active, Mild
Note: INFLAMMATION	TGLs = 2-10		
Note: HYPERPLASIA	TGLs = 2-10		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney	Transit Epithe	Hyperplasia	Minimal
	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Note: FATTY CHANGE	TGLs = 7-3		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Hyperplasia TGLS = 3-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 397

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870315

**ORGAN AND ACCOUNTABLE SITE STATUS**

Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Metaplasia	Squamous, Mild
Thyroid Gland	C Cell	Dilatation	Mild
Uterus	Cervix	Hyperplasia	Minimal
		Cyst	Mild
		Hydrometra	Mild
	Endometrium	Hyperplasia	Marked
		Inflammation	Acute, Marked
		Necrosis	Coagulative, Moderate

Note: DEBRIS OF UNCLEAR ORIGIN. IT WAS DESIGNATED A

Note: THE RIGHT UTERINE HORN CONTAINED A MASS OF NECROTIC

Note: FOREIGN BODY BY THE PROSECTOR.

Note: CYST TGLs = 4-6.1

[ Hyperplasia TGLS = 5-6.2 ]

[ Inflammation TGLS = 4-6.1 ]

[ Necrosis TGLS = 6-6.3 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 398

TRT#: 8

SEX: Female

DAY ON TEST: 643

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870317

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Clitoral Gland	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Nose
Ovary	Parathyroid Gland	Salivary Glands	Skin
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Heart		Cardiomyopathy	Minimal
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: FATTY CHANGE	TGLs = 5-3		
Note: LEUKEMIA MONUC	TGLs = 5-3		
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Mild
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Cyst	Mild
Note: [ ANGIECTASIS ]	TGLs = 8-8		
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3.1 ]			
Stomach	Forestomach	Acanthosis	Mild
	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Glandular	Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 398

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 643

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870317

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Forestomach

Ulcer

Moderate

Note: INFLAMMATION TGLs = 9-7

Note: HYPERPLASIA TGLs = 9-7

Note: ULCER TGLs = 9-7

Note: 1991 CONVERSION DISCREPANCY. ORIGINAL DIAGNOSIS SITE NOT SPECIFIED.

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 399

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870316

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Cyst	Mild
		Nephropathy	Minimal
Note: CYST	TGLs = 3-4.1		
Liver		Inflammation	Chronic Active, Minimal
Note: THE CHRONIC INFLAMMATION WAS CHARACTERIZED BY SMALL			
Note: NODULES OF HISTIOCYTES THROUGHOUT THE LIVER.			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Cyst	Marked
Note: CYST	TGLs = 4-2		
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 400

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870313

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

MISSING

Kidney

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Liver		Clear Cell Focus	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA.			
Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL			
[ Clear Cell Focus TGLS = 1-3 ]			
Lung		Squamous Cell Carcinoma	Metastatic (Uncertain Primary Site)
Note: SQUAM CEL CARC TGLs = 2-1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
Note: ADENOMA TGLs = 3-8			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 400

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870313

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 401

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 10,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853147

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Skin

Stomach - Forestomach

Stomach - Glandular

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**OBSERVATIONS**

Lymph Node

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Mesenteric

Pigmentation

Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 402

TRT#: 8

SEX: Female

DAY ON TEST: 647

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870319

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

**MISSING**

Clitoral Gland

**OBSERVATIONS**

Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
[ Infiltration Cellular TGLS = 5-2 ]			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 2,3-13+13.1 ]		Hyperplasia	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 6-8 ]	Pars Distalis	Cyst	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus	Endometrium	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 403

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 10,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853148

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum  
Intestine Small - Ileum

Intestine Large - Colon  
Intestine Small - Jejunum

Intestine Large - Rectum  
Stomach - Forestomach

Intestine Small - Duodenum  
Stomach - Glandular

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**OBSERVATIONS**

Lymph Node

Mandibular  
Mesenteric  
Mesenteric

Hyperplasia  
Infiltration Cellular  
Pigmentation

Plasma Cell, Mild  
Histiocyte, Minimal  
Minimal

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[ Hyperplasia TGLS = 2-9 ]

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 404

TRT#: 8

SEX: Female

DAY ON TEST: 556

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870320

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Heart	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Ovary	Pancreas
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland	Duct	Dilatation	Minimal
[ Dilatation TGLS = 3-10 ]			
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Minimal
Liver		Inflammation	Chronic Active, Minimal
		Necrosis	Coagulative, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 2-13+13.1 ]			
Pituitary Gland	Pars Distalis	Adenoma	
Note: [ ADENOMA ] TGLs = 5-8			
Salivary Glands	Sublingual GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus		Polyp Stromal	
Note: POLYP STROMAL TGLs = 4-6			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 405

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870318

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
Heart		Cardiomyopathy	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: [ EOSIN FOCUS ] TGLs = 7-3+3.1			
Note: LEUKEMIA MONUC TGLs = 8-3+3.1			
Lung		Alveolar/Bronchiolar Adenoma	
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: ALV BRON ADEN TGLs = 9-1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Mesentery		Fibrosis	Marked
		Inflammation	Chronic Active, Mild
		Mineralization	Minimal
		Necrosis	Liquifactive, Moderate
Note: NECROSIS TGLs = 4-13			
[ Fibrosis TGLS = 4-13 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 405	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 731
	<b>DOSE:</b> 10,000 PPM FEM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 870318

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Necrosis TGLS = 4-13 ]

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Skin	Subcut Tiss	Cyst Epithelial Inclusion	
Note: CYST EPITH INC	TGLs = 6-14		
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	

[ Leukemia Mononuclear TGLS = 3-3.2 ]

Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 406

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870321

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Uterus

Polyp Stromal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 407	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 455
	<b>DOSE:</b> 10,000 PPM FEM	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853149

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Stomach - Forestomach	Stomach - Glandular	

---

**OBSERVATIONS**

Clitoral Gland		Hyperplasia	Minimal
[ Hyperplasia TGLS = 1-10 ]			
Intestine Large	Colon	Parasite Metazoan	Minimal
Liver		Basophilic Focus	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-8		

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PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 408

TRT#: 8

SEX: Female

DAY ON TEST: 489

DOSE: 10,000 PPM FEM

DISP: Dead

HISTO: 870324

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Bone	Bone Marrow	Esophagus	Islets, Pancreatic
Parathyroid Gland	Skin	Stomach - Forestomach	Trachea
Uterus			

**MISSING**

Urinary Bladder

**INSUFFICIENT TISSUE**

Eye

**OBSERVATIONS**

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-8		
Brain		Infarct	Moderate
		Leukemia Mononuclear	
Note: INFARCT	TGLs = 11-5		
Note: LEUKEMIA MONUC	TGLs = 11-5		
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum	Autolysis	Moderate
	Colon	Autolysis	Mild
	Rectum	Autolysis	Mild
Intestine Small	Duodenum	Autolysis	Moderate
	Ileum	Autolysis	Moderate
	Jejunum	Autolysis	Moderate
Kidney		Autolysis	Mild
		Leukemia Mononuclear	
		Nephropathy	Mild
Note: LEUKEMIA MONUC	TGLs = 9-4		
Liver		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 10,13-3		
Lung		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 408

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 489

**DOSE:** 10,000 PPM FEM

**DISP:** Dead

**HISTO:** 870324

**ORGAN AND ACCOUNTABLE SITE STATUS**

Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-7.2+8		
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 16-10		
Note: FIBROADENOMA	TGLs = 16-10		
Nose		Inflammation	Chronic Active, Minimal
Ovary		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-6		
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 12-9		
Salivary Glands	Submandibul GI	Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Marked
		Fibrosis	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-3.1+3.2 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Leukemia Mononuclear	
Thyroid Gland		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 409

TRT#: 8

SEX: Female

DAY ON TEST: 708

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870323

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Ear
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
Eye	Retina	Degeneration	Moderate
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Moderate
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
Note: FIBROADENOMA TGLs = 4-15 [ Fibroadenoma TGLS = 3-14+15 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 7-8.1			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Moderate
	Glandular	Inflammation	Chronic Active, Marked
	Forestomach	Ulcer	Marked
Note: 1991 CONVERSION DISCREPANCY. ORIGINAL DIAGNOSIS SITE NOT SPECIFIED.			
Note: HYPERPLASIA TGLs = 5,10-7+7.2			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 409

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 708

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870323

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: INFLAMMATION TGLs = 5,10-7+7.2

Note: ULCER TGLs = 5,10-7+7.2

Note: HYPERKERATOSIS TGLs = 5,10-7+7.2

Uterus

Endometrium

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 410

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870322

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Cortex  
Brain  
Intestine Large - Colon  
Intestine Small - Jejunum  
Salivary Glands  
Urinary Bladder

Adrenal Gland - Medulla  
Clitoral Gland  
Intestine Large - Rectum  
Islets, Pancreatic  
Skin  
Uterus

Bone  
Esophagus  
Intestine Small - Duodenum  
Nose  
Stomach - Forestomach

Bone Marrow  
Intestine Large - Cecum  
Intestine Small - Ileum  
Ovary  
Trachea

**MISSING**

Thymus

**OBSERVATIONS**

Heart  
Kidney

Cardiomyopathy  
Leukemia Mononuclear  
Nephropathy  
Fatty Change  
Leukemia Mononuclear

Mild  
  
Minimal  
Minimal

Note: LEUKEMIA MONUC TGLs = 6-3  
[ Leukemia Mononuclear TGLS = 6-3 ]

Lung

Leukemia Mononuclear  
Mineralization  
Infiltration Cellular  
Leukemia Mononuclear  
Leukemia Mononuclear

Minimal  
Histiocyte, Minimal

Artery  
Mesenteric  
Mediastinal  
Mesenteric

Note: LEUKEMIA MONUC TGLs = 2-7.1+8  
[ Infiltration Cellular TGLS = 5-2 ]

Mammary Gland  
Pancreas  
Parathyroid Gland  
Pituitary Gland

Hyperplasia  
Vacuolization Cytoplasmic  
Hyperplasia  
Adenoma

Mild  
Minimal  
Mild

Note: ADENOMA TGLs = 7-8

Pars Distalis

Spleen

Depletion Lymphoid  
Leukemia Mononuclear

Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 410

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870322

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Leukemia Mononuclear TGLS = 3,4-3+3.1 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Thyroid Gland

Follicular Cel

Adenoma

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 411

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870327

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Pancreas
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Note: INFLAMMATION TGLs = 9-10			
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Mild
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Mesentery		Leiomyoma	
Note: CERTAIN PRIMARY OR METASTATIC ORIGIN. NOT PRIMARY			
Note: CIRCUMSCRIBED BENIGN TUMOR OF SMOOTH MUSCLE OF UN-			
Note: THE MASS ARISING IN THE MESENTERY APPEARS TO BE A			
Note: LEIOMYOMA TGLs = 2,3-13			
Note: SMOOTH MUSCLE TUMORS WERE NOTED ELSEWHERE IN THE			
Note: MESENTERY.			
Note: BODY. THIS IS AN UNUSUAL TUMOR TO ARISE IN THE			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 411

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870327

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**ORGAN AND ACCOUNTABLE SITE STATUS**

Salivary Glands

Submandibul GI

Inflammation

Chronic Active, Minimal

Stomach

Glandular, Mucosa

Dilatation

Mild

Thyroid Gland

C Cell

Hyperplasia

Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 412

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 10,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853150

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Eye  
Intestine Small - Ileum

Intestine Large - Cecum  
Intestine Small - Jejunum

Intestine Large - Colon  
Stomach - Forestomach

Intestine Small - Duodenum  
Stomach - Glandular

---

**MISSING**

Intestine Large - Rectum

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**OBSERVATIONS**

Liver  
Basophilic Focus  
Hepatodiaphragmatic Nodule

Minimal

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[ Basophilic Focus TGLS = 2-3.1 ]

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 413

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870326

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
[ Adenoma TGLS = 2-10 ]			
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Minimal
Note: HDN	TGLs = 4-3.1		
[ Hepatodiaphragmatic Nodule TGLS = 6-3.1 ]			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
[ Hyperplasia TGLS = 3-13 ]		Hyperplasia	Mild
Ovary		Cyst	Mild
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	Multiple
Note: ADENOMA	TGLs = 5-8		
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 413

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870326

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Uterus

Hydrometra

Mild

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 414

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870328

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Jejunum  
Skin  
Urinary Bladder

Bone  
Intestine Large - Rectum  
Islets, Pancreatic  
Stomach - Forestomach

Bone Marrow  
Intestine Small - Duodenum  
Ovary  
Thymus

Brain  
Intestine Small - Ileum  
Parathyroid Gland  
Trachea

OBSERVATIONS

Adrenal Gland  
Clitoral Gland  
Note: INFLAMMATION TGLs = 3-10

Cortex

Angiectasis  
Inflammation

Mild  
Chronic Active, Minimal

Heart  
Intestine Large

Cecum  
Colon

Cardiomyopathy  
Parasite Metazoan  
Parasite Metazoan

Mild  
Minimal  
Minimal

Kidney  
Liver

Nephropathy  
Basophilic Focus  
Leukemia Mononuclear

Minimal  
Minimal

Note: LEUKEMIA MONUC TGLs = 4-3  
Lung

Artery  
Mesenteric

Infiltration Cellular  
Mineralization  
Infiltration Cellular  
Fibroadenoma  
Hyperplasia

Histiocyte, Minimal  
Minimal  
Histiocyte, Minimal  
Mild

[ Fibroadenoma TGLS = 2-13 ]  
Nose

Pancreas  
Pituitary Gland  
Salivary Glands

Pars Distalis  
Submandibul GI  
Duct, Submandibul GI

Inflammation  
Inflammation  
Hyperplasia  
Inflammation  
Metaplasia  
Leukemia Mononuclear

Chronic Active, Minimal  
Chronic Active, Minimal  
Minimal  
Chronic Active, Minimal  
Squamous, Minimal

Spleen  
Stomach  
Thyroid Gland

Glandular, Mucosa  
C Cell

Dilatation  
Hyperplasia

Minimal  
Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 414

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870328

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Uterus

Hydrometra

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 415

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870325

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Adenoma	
	Cortex	Angiectasis	Mild
	Cortex	Hyperplasia	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Mild
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 2-13 ]			
Ovary		Cyst	Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-8			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	Follicular Cel	Cyst	Minimal
	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 415

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870325

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 416

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870329

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Pheochromocytoma Benign	
	Cortex	Vacuolization Cytoplasmic	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 5-10			
Eye		Cataract	Marked
	Retina	Degeneration	Marked
[ Cataract TGLS = 3-14 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8-3			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
Note: FIBROADENOMA TGLs = 4-13			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6,7-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 416

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870329

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: NECROSIS	TGLs = 9-7.2	Glandular	Necrosis	Coagulative, Minimal
Thyroid Gland		C Cell	Adenoma	
		Follicular Cel	Cyst	Mild
		C Cell	Hyperplasia	Mild
Urinary Bladder			Inflammation	Chronic Active, Minimal
Uterus			Polyp Stromal	

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 417

TRT#: 8

SEX: Female

DAY ON TEST: 700

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870332

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-3 ]			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 6-1			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-13+13.1 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Ectopic Liver	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Minimal
Note: ADENOMA TGLs = 7-8			
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
Thymus		Cyst	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 417

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 700

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870332

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 418

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870331

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Skin	Stomach - Forestomach
Thymus	Trachea	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
Note: [ ADENOMA ] TGLs = 11-10			
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
Note: HDN TGLs = 5-3			
Note: LEUKEMIA MONUC TGLs = 4-3			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 6-1+2			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-7.1+8			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 418

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870331

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen	Duct, Submandibul GI	Metaplasia Depletion Lymphoid Leukemia Mononuclear	Squamous, Minimal Moderate
[ Leukemia Mononuclear TGLS = 1,2-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 419

TRT#: 8

SEX: Female

DAY ON TEST: 731

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870330

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
Note: [ ADENOMA ] TGLs = 2-13			
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Ovary		Cyst	Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Note: [ ANGIECTASIS ] TGLs = 4-8			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 420	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 455
	<b>DOSE:</b> 10,000 PPM FEM	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853151

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Eye	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Ovary	Spleen
Stomach - Forestomach	Stomach - Glandular		

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**MISSING**

Intestine Small - Ileum

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**OBSERVATIONS**

Clitoral Gland		Adenoma	
Note: [ ADENOMA ] TGLs = 3-10			
Lymph Node	Mandibular	Hemorrhage	Minimal
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: HEMORRHAGE TGLs = 4-9			

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 421

TRT#: 8

SEX: Female

DAY ON TEST: 591

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870334

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Adenoma	
	Cortex	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Note: ADENOMA	TGLs = 3-8.1		
Bone Marrow	Sternal	Leukemia Mononuclear	
Clitoral Gland		Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-3		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-2.1		
Note: LEUKEMIA MONUC	TGLs = 5-7.1+8		
Note: LEUKEMIA MONUC	TGLs = 6-9.1		
Mammary Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 421

TRT#: 8

SEX: Female

DAY ON TEST: 591

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870334

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
Pituitary Gland	Pars Intermed	Cyst	Minimal
	Pars Distalis	Leukemia Mononuclear	
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-3.1 ]		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Minimal

Note: [ CARCINOMA ] TGLs = 9-8

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 422

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870333

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Esophagus
Heart	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Nose
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Brain		Astrocytoma Malignant	
		Hydrocephalus	Minimal
Note: HYDROCEPHALUS TGLs = 6-5			
Note: [ ASTROCYTO MAL ] TGLs = 6-5			
Clitoral Gland		Hyperplasia	Mild
		Inflammation	Chronic Active, Minimal
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL			
Note: LEUKEMIA.			
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 2-13 ]			
[ Hyperplasia TGLS = 2-13 ]			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 422	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 730
	<b>DOSE:</b> 10,000 PPM FEM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 870333

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 5-8.1 ]

Spleen Leukemia Mononuclear

Note: THIS APPEARS TO BE A STAGE 1 MONONUCLEAR CELL

Note: LEUKEMIA.

Note: LEUKEMIA MONUC TGLs = 3-3

Stomach Glandular, Mucosa Dilatation Minimal

Thyroid Gland C Cell Hyperplasia Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 423

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 10,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853152

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Intestine Large - Cecum

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Stomach - Forestomach

Stomach - Glandular

Thyroid Gland

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**OBSERVATIONS**

Pituitary Gland

Pars Distalis

Angiectasis

Mild

Rathkes Cleft

Crystals

Marked

Note: CRYSTALS TGLs = 4-8

Note: CRYSTALS TGLs = 4-8

Note: RECTANGULAR WERE IN RATHKES CLEFT.

Note: LARGE NUMBERS OF EOSINOPHILIC CRYSTALS, IRREGULAR AND

[ Angiectasis TGLS = 3-8 ]

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PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 424

TRT#: 8

SEX: Female

DAY ON TEST: 528

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870335

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Liver	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose	Lumen	Foreign Body	Mild
		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Minimal

Note: WERE NOTED IN THE LUMEN OF THE NOSE.

Note: PIECES OF PLANT/FOOD MATERIAL SURROUNDED BY NEUTROPHILS

Pituitary Gland	Pars Distalis	Cyst	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 425

TRT#: 8

SEX: Female

DAY ON TEST: 462

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870336

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Mammary Gland	Skin
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OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Hyperplasia	Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Fatty Change	Minimal
		Hepatodiaphragmatic Nodule	
[ Fatty Change TGLS = 4-3 ]			
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Nose		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Mild
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED			
Note: IN THE LUMEN OF THE NOSE.			
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-8.1			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 426

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 10,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853154

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Bone	Bone Marrow	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Nose
Stomach - Forestomach	Stomach - Glandular		

---

**OBSERVATIONS**

Intestine Large	Colon	Parasite Metazoan	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal

Note: PIGMENT TGLs = 2-8

Stomach

Note: A SEGMENT OF THE FORESTOMACH LACKS A MUSCULARIS, HENCE

Note: THE THIN WALL.

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PRIMARY CAUSE OF DEATH

-

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**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 427

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 10,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853153

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

**NORMAL**

Bone

Bone Marrow

Intestine Large - Cecum

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Nose

Skin

Stomach - Forestomach

Stomach - Glandular

Thyroid Gland

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**PRIMARY CAUSE OF DEATH**

-

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 428

TRT#: 8

SEX: Female

DAY ON TEST: 730

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870337

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Trachea
Urinary Bladder	Uterus		

**MISSING**

Thymus

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Moderate
Note: INFLAMMATION TGLs = 2-10 [ Adenoma TGLS = 2-10 ]			
Heart		Cardiomyopathy	Mild
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
[ Hyperplasia TGLS = 1-10 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 429

TRT#: 8

SEX: Female

DAY ON TEST: 456

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870339

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Intestine Large - Cecum  
Intestine Small - Ileum  
Salivary Glands  
Urinary Bladder

Bone  
Intestine Large - Colon  
Intestine Small - Jejunum  
Skin

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Thyroid Gland

Esophagus  
Intestine Small - Duodenum  
Parathyroid Gland  
Trachea

OBSERVATIONS

Adrenal Gland

Cortex  
Cortex

Leukemia Mononuclear  
Vacuolization Cytoplasmic

Moderate

Note: VACUOLIZ CYTO TGLs = 9-8

Brain

Leukemia Mononuclear

Clitoral Gland

Inflammation

Chronic Active, Minimal

Heart

Cardiomyopathy

Minimal

Kidney

Leukemia Mononuclear  
Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 10-4

Liver

Fatty Change  
Leukemia Mononuclear

Moderate

Note: LEUKEMIA MONUC TGLs = 7,8-3

Note: FATTY CHANGE TGLs = 8-3

Lung

Leukemia Mononuclear  
Mineralization

Minimal

Note: LEUKEMIA MONUC TGLs = 6-1+2

Lymph Node

Mesenteric  
Mesenteric  
Pancreatic

Infiltration Cellular  
Leukemia Mononuclear  
Leukemia Mononuclear

Histiocyte, Minimal

Note: LEUKEMIA MONUC TGLs = 4-9.1

Mammary Gland

Hyperplasia

Moderate

Note: HYPERPLASIA TGLs = 2-10

Nose

Inflammation  
Leukemia Mononuclear

Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 429	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 456
	<b>DOSE:</b> 10,000 PPM FEM	<b>DISP:</b> Moribund	<b>HISTO:</b> 870339

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Mild
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3.1		
Stomach	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
	Glandular	Necrosis	Coagulative, Mild
Note: NECROSIS	TGLs = 12-7.1		
Thymus		Leukemia Mononuclear	
Uterus		Hydrometra	Mild
	Endometrium	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 430

TRT#: 8

SEX: Female

DAY ON TEST: 526

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870338

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Thyroid Gland	Trachea	Urinary Bladder

**MISSING**

Thymus

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Mild
Brain		Necrosis	Coagulative, Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Kidney		Nephropathy	Mild
Liver		Clear Cell Focus	Minimal
		Inflammation	Chronic Active, Minimal
		Necrosis	Coagulative, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Moderate
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Carcinoma	
Note: THE PITUITARY TUMOR INVADED INTO THE BASE OF THE			
Note: CARCINOMA TGLs = 5-8.1			
Note: BRAIN HENCE THE DIAGNOSIS CARCINOMA.			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 430

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 526

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870338

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: POLYP STROMAL TGLs = 6-6

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 431

TRT#: 8

SEX: Female

DAY ON TEST: 708

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870343

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

MISSING

Parathyroid Gland

INSUFFICIENT TISSUE

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
Note: ADENOMA	TGLs = 4-10		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Eosinophilic Focus	
		Mixed Cell Focus	Mild
Note: [ EOSIN FOCUS ]	TGLs = 8-3		
Note: MIXED CL FOCUS	TGLs = 9-3		
Lung		Alveolar/Bronchiolar Adenoma	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Adenocarcinoma	
		Fibroadenoma	Multiple
		Hyperplasia	Mild
Note: FIBROADENOMA	TGLs = 2,5-13+15		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 431

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 708

**DOSE:** 10,000 PPM FEM

**DISP:** Moribund

**HISTO:** 870343

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibroadenoma TGLS = 3-14 ]

Pancreas	Acinus	Atrophy Inflammation	Minimal Chronic Active, Minimal
Pituitary Gland Note: ADENOMA      TGLs = 7-8	Pars Distalis	Adenoma	
Stomach	Glandular, Mucosa	Dilatation	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 432

TRT#: 8

SEX: Female

DAY ON TEST: 455

DOSE: 10,000 PPM FEM

DISP: Moribund

HISTO: 870344

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Liver	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: HYPERPLASIA TGLs = 5-7.1			
Note: EPITHELIAL CELLS IN GLANDULAR CRYPTS OF THE CECUM			
Note: WERE CROWDED AND INCREASED IN NUMBERS.			
Kidney		Nephropathy	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Marked
		Metaplasia	Squamous, Mild
Note: THE LUMEN OF THE NOSE.			
Note: FUNGAL HYPHAE SURROUNDED BY NEUTROPHILS WERE NOTED IN			
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Note: ADENOMA TGLs = 11-8			
Stomach	Forestomach	Hyperkeratosis	Mild
	Forestomach	Hyperplasia	Squamous, Mild
	Glandular	Necrosis	Coagulative, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 433

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870342

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Ovary
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
Note: [ ADENOMA ] TGLs = 7-10			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Parasite Metazoan	Minimal
	Colon	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Degeneration	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 1-13 ]			
[ Hyperplasia TGLS = 2-10 ]			
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Cyst	Minimal
Note: [ ANGIECTASIS ] TGLs = 5-8			
Salivary Glands	Duct, Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 433

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870342

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Cervix

Cyst

Mild

Inflammation

Acute, Mild

Polyp Stromal

Note: INFLAMMATION TGLs = 6-6.1

Note: CYST TGLs = 6-6.1

Note: POLYP STROMAL TGLs = 3-6

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 434

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870341

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Ovary
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Colon	Parasite Metazoan	Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Minimal
Note: HDN	TGLs = 3-3		
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
		Hyperplasia	Mild
[ Hyperplasia TGLS = 1-10 ]			
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 2-8		
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 434

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 10,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 870341

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 435

TRT#: 8

SEX: Female

DAY ON TEST: 729

DOSE: 10,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 870340

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Ovary	Parathyroid Gland
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

**OBSERVATIONS**

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
	[ Hepatodiaphragmatic Nodule TGLS = 5-3 ]		
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Adenocarcinoma	
		Hyperplasia	Mild
	[ Adenocarcinoma TGLS = 3-13+13.1 ]		
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Intermed	Pigmentation	Mild
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Cervix	Cyst	Mild
	[ Cyst TGLS = 4-6.1 ]		

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

**ANIMAL ID:** 436

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863154

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Ileum  
Pancreas  
Stomach - Forestomach

Bone  
Intestine Large - Colon  
Intestine Small - Jejunum  
Parathyroid Gland  
Trachea

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Skin  
Urinary Bladder

Brain  
Intestine Small - Duodenum  
Ovary  
Spleen  
Uterus

**MISSING**

Thymus

**OBSERVATIONS**

Adrenal Gland  
Clitoral Gland  
Heart  
Intest Small

Cortex

Angiectasis  
Inflammation  
Cardiomyopathy

Minimal  
Chronic Active, Minimal  
Mild

Note: THE ILEUM.

Note: FILAMENTOUS BACTERIA WERE OBSERVED ON THE SURFACE OF

Intestine Large

Cecum  
Cecum

Hyperplasia  
Ulcer

Glandular, Mild  
Minimal

Note: HYPERPLASIA TGLs = 6-7.1+7.2

Note: ULCER TGLs = 6-7.1

Kidney  
Liver

Nephropathy  
Degeneration  
Eosinophilic Focus  
Inflammation

Mild  
Minimal  
Minimal  
Chronic Active, Minimal

Lung  
Lymph Node

Artery  
Mesenteric, Sinus  
Mesenteric

Mineralization  
Ectasia  
Infiltration Cellular

Minimal  
Moderate  
Histiocyte, Minimal

Note: ECTASIA TGLs = 4-7.2

Mammary Gland  
Nose  
Pituitary Gland

Pars Distalis  
Pars Distalis

Hyperplasia  
Inflammation  
Adenoma  
Cyst

Mild  
Chronic Active, Minimal  
  
Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 436

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863154

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA	TGLs = 5-8	Pars Distalis	Hyperplasia	Mild
Salivary Glands		Submandibul GI Duct, Submandibul GI	Inflammation Metaplasia	Chronic Active, Minimal Squamous, Minimal
Stomach		Glandular, Mucosa	Dilatation	Mild
Thyroid Gland		C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH		-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 437

TRT#: 9

SEX: Female

DAY ON TEST: 673

DOSE: 50,000 PPM FEM

DISP: Dead

HISTO: 863157

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Islets, Pancreatic	Lung
Nose	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Tissue NOS	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Note: ANGIECTASIS	TGLs = 4,5-8		
Bone	Cranium	Osteopetrosis	Moderate
	Sternum	Osteopetrosis	Marked
Note: OSTEOPETROSIS	TGLs = 13-12		
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Autolysis	Mild
Intestine Small	Duodenum	Autolysis	Moderate
	Ileum	Autolysis	Moderate
	Jejunum	Autolysis	Moderate
Kidney	Prox Con Tub	Inflammation	Acute, Minimal
		Nephropathy	Mild
Liver		Degeneration	Mild
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 6-7.2 ]			
Mammary Gland		Hyperplasia	Mild
Ovary		Cyst	Mild
[ Cyst TGLS = 2-6 ]			
Pharynx	Palate	Squamous Cell Carcinoma	
Note: [ SQUAM CEL CARC ]	TGLs = 12-13+13.1		
Pituitary Gland	Pars Distalis	Angiectasis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 437

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 673

**DOSE:** 50,000 PPM FEM

**DISP:** Dead

**HISTO:** 863157

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pars Distalis

Cyst

Mild

Pars Distalis

Hyperplasia

Minimal

Note: CYST TGLs = 11-8

Note: [ ANGIECTASIS ] TGLs = 11-8

Salivary Glands

Duct, Submandibul GI

Inflammation

Chronic Active, Minimal

Stomach

Note: SOME FAT WAS NOTED IN THE SUBMUCOSA OF THE STOMACH

Note: TRIMMER. THIS IS NOT CONSIDERED TO BE A LESION.

Note: WHICH MAY HAVE APPEARED AS A WHITE FOCUS TO THE

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 438

TRT#: 9

SEX: Female

DAY ON TEST: 708

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863156

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: HYPERPLASIA TGLs = 7-7.2			
Note: [ INFLAMMATION ] TGLs = 7-7.1			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Mild
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 6-7.2			
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
[ Fibroadenoma TGLS = 2-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
Spleen		Cyst	Mild
Note: ON THE CAPSULE OF THE SPLEEN WAS A SMALL CYST			
Note: WITH A FIBROUS WALL. PINK PROTEINACEOUS MATERIAL			
Note: WAS PRESENT IN THE CYST.			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 438

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 708

**DOSE:** 50,000 PPM FEM

**DISP:** Moribund

**HISTO:** 863156

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: CYST      TGLs = 5-3.1

Stomach	Glandular, Mucosa	Dilatation	Mild
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Thyroid Gland	C Cell	Hyperplasia	Mild
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Uterus		Polyp Stromal	
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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 439

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863153

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Ileum  
Pancreas  
Stomach - Forestomach  
Uterus

Bone  
Intestine Large - Colon  
Intestine Small - Jejunum  
Parathyroid Gland  
Thymus

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Skin  
Trachea

Brain  
Intestine Small - Duodenum  
Ovary  
Spleen  
Urinary Bladder

OBSERVATIONS

Adrenal Gland  
Clitoral Gland  
Heart  
Intestine Large

Cortex  
  
Cecum  
Cecum, Lamina Propria, Submucosa

Angiectasis  
Inflammation  
Cardiomyopathy  
Hyperplasia  
Inflammation

Minimal  
Chronic Active, Mild  
Mild  
Glandular, Mild  
Chronic Active, Mild

Note: HYPERPLASIA TGLs = 6-7  
Note: INFLAMMATION TGLs = 6-7+7.1+7.2  
Note: IN FOCAL AREAS OF THE CECUM THERE WAS EROSION/  
Note: ULCERATION OF THE MUCOSAL EPITHELIUM, HYPERPLASIA  
Note: OF GLANDS IN THE MUCOSA, AND INFILTRATION OF MACRO-  
Note: PHAGES, LYMPHOCYTES, PLASMA CELLS, AND NEUTROPHILS  
Note: GLANDULAR STOMACH, JEJUNUM, ILEUM, OR LARGE INTESTINE.  
Note: WITH TURMERIC COULD NOT BE APPRECIATED IN THE  
Note: THE SUBTLE PIGMENTATION OF THE EPITHELIUM ASSOCIATED  
Note: IN THE MUCOSA AND SUBMUCOSA.

Kidney  
Liver

Nephropathy  
Basophilic Focus  
Inflammation

Mild  
Minimal  
Chronic Active, Minimal

Note: SMALL AGGREGATES OF HISTIOCYTES, LYMPHOCYTES, AND  
Note: PLASMA CELLS WERE NOTED IN SINUSOIDAL AND PERIPORTAL  
Note: AREAS.

Lung  
Lymph Node

Artery  
Mesenteric, Sinus

Mineralization  
Ectasia

Minimal  
Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 439

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863153

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 3-7.2 ]			
Mammary Gland		Fibroadenoma Hyperplasia	Mild
[ Fibroadenoma TGLS = 2-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 5-8			
Salivary Glands	Duct, Submandibul GI Submandibul GI	Hyperplasia Inflammation	Mild Chronic Active, Mild
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 440

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863155

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Jejunum  
Stomach - Forestomach  
Uterus

Bone  
Intestine Large - Colon  
Islets, Pancreatic  
Thymus

Bone Marrow  
Intestine Small - Duodenum  
Parathyroid Gland  
Trachea

Brain  
Intestine Small - Ileum  
Skin  
Urinary Bladder

OBSERVATIONS

Adrenal Gland

Cortex  
Cortex

Angiectasis  
Hyperplasia  
Adenoma  
Hyperplasia

Minimal  
Minimal

Clitoral Gland

[ Adenoma TGLS = 2-10 ]

Cardiomyopathy  
Leukemia Mononuclear  
Hyperplasia  
Inflammation  
Parasite Metazoan

Mild

Heart

Intestine Large

Cecum  
Cecum, Lamina Propria, Submucosa  
Rectum

Nephropathy  
Leukemia Mononuclear  
Necrosis

Mild  
Glandular, Mild  
Chronic Active, Mild  
Minimal

Note: [ INFLAMMATION ] TGLs = 10-7.1

Note: HYPERPLASIA TGLs = 10-7.1+7.2

Kidney  
Liver

Infiltration Cellular  
Leukemia Mononuclear  
Ectasia  
Infiltration Cellular  
Leukemia Mononuclear  
Leukemia Mononuclear

Minimal  
Coagulative, Minimal

Note: LEUKEMIA MONUC TGLs = 6-3

Lung

Lymph Node

Mesenteric, Sinus  
Mesenteric  
Mandibular  
Mesenteric

Histiocyte, Minimal  
Marked  
Histiocyte, Minimal

Note: LEUKEMIA MONUC TGLs = 8-7.2+8

[ Leukemia Mononuclear TGLS = 8-7.2 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 440

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863155

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Ovary		Cyst	Marked
		Leukemia Mononuclear	
Note: CYST	TGLs = 4-6		
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Cyst	Mild
Note: CYST	TGLs = 9-8		
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-3		
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 441

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863160

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
[ Adenoma TGLS = 3-10.1 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Mild
Note: HYPERPLASIA TGLs = 4-7.1+7.2			
Note: ULCER TGLs = 4-7.1+7.2			
[ Hyperplasia TGLS = 4-7.1+7.2 ]			
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 5-7.2			
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-8			
Stomach	Glandular, Mucosa	Dilatation	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 442

TRT#: 9

SEX: Female

DAY ON TEST: 624

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863162

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Skin	Trachea	

OBSERVATIONS

Adrenal Gland	Cortex Medulla	Leukemia Mononuclear Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Clitoral Gland		Leukemia Mononuclear	
Eye		Leukemia Mononuclear	
Note: TWEEN THE RETINA AND SCLERA AND IN THE SCLERA.			
Note: LEUKEMIC INFILTRATES WERE NOTED IN THE PLANE BE-			
Heart		Cardiomyopathy Leukemia Mononuclear	Mild
Intestine Large	Cecum Cecum, Lamina Propria, Submucosa Cecum Cecum	Hyperplasia Inflammation Leukemia Mononuclear Ulcer	Glandular, Mild Chronic Active, Mild  Mild
Note: ULCER TGLs = 18-7.2			
[ Hyperplasia TGLs = 18-7+7.1+7.2 ]			
[ Leukemia Mononuclear TGLs = 18-7.2 ]			
[ Ulcer TGLs = 18-7.2 ]			
Kidney		Leukemia Mononuclear	
Note: MONONUCLEAR CELL LEUKEMIA.			
Note: YELLOW PIGMENTATION IN THE PCT IS COMMON IN RATS WITH			
Note: LEUKEMIA MONUC TGLs = 15-4			
Liver		Fatty Change Leukemia Mononuclear	Minimal
Note: FATTY CHANGE TGLs = 9-3			
Note: LEUKEMIA MONUC TGLs = 9-3			
Lung		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 442	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 624
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Moribund	<b>HISTO:</b> 863162

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mesenteric, Sinus Mesenteric Mesenteric	Ectasia Infiltration Cellular Leukemia Mononuclear	Moderate Histiocyte, Minimal
Note: LEUKEMIA MONUC	TGLs = 6-7.2+8		
Note: ECTASIA	TGLs = 6-7.2		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy Leukemia Mononuclear	Minimal
Note: LEUKEMIA MONUC	TGLs = 7-9		
Parathyroid Gland		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 10-8		
Pituitary Gland	Pars Distalis Pars Distalis Pars Distalis Pars Intermed	Adenoma Cyst Leukemia Mononuclear Leukemia Mononuclear	Moderate
Note: CYST	TGLs = 14-8		
Note: ADENOMA	TGLs = 13-8		
Salivary Glands	Sublingual GI Submandibular GI	Leukemia Mononuclear Leukemia Mononuclear	
Spleen		Depletion Lymphoid Leukemia Mononuclear	Marked
Note: LEUKEMIA MONUC	TGLs = 8-3.1		
Stomach	Glandular, Mucosa Forestomach	Dilatation Leukemia Mononuclear Leukemia Mononuclear	Minimal
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	
Uterus		Leukemia Mononuclear Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 442

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 624

**DOSE:** 50,000 PPM FEM

**DISP:** Moribund

**HISTO:** 863162

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: MONONUCLEAR LEUKEMIA CELLS.

Note: THE STROMA OF THE UTERINE POLYP WAS FILLED WITH

[ Leukemia Mononuclear TGLS = 5-6 ]

[ Polyp Stromal TGLS = 5-6 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 443

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863159

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Ovary	Parathyroid Gland	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Moderate
Note: INFLAMMATION TGLs = 2-10			
Note: [ ADENOMA ] TGLs = 2-10			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Moderate
Note: HYPERPLASIA TGLs = 6-7.1+7.2			
Note: ULCER TGLs = 6-7.1+7.2			
[ Hyperplasia TGLs = 6-7.1+7.2 ]			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA CELLS IN THE SINUSOIDS.			
Note: THERE APPEAR TO BE SMALL NUMBERS OF MONONUCLEAR CELL			
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 4-7.2			
Mammary Gland		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

<b>ANIMAL ID:</b> 443	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 863159

ORGAN AND ACCOUNTABLE SITE STATUS

		Hyperplasia	Moderate
[ Hyperplasia TGLS = 3-13 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Salivary Glands	Parotid GI	Atrophy	Mild
	Parotid GI	Inflammation	Chronic Active, Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen		Depletion Lymphoid	Minimal
		Leukemia Mononuclear	
Note: MONONUCLEAR CELL LEUKEMIA.			
Note: THE SPLEEN APPEARS TO HAVE THE FEATURES OF AN EARLY			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	Follicular Cel	Cyst	Mild
Uterus		Polyp Stromal	
Note: POLYP STROMAL TGLs = 5-6			

PRIMARY CAUSE OF DEATH -

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 444

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863158

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: HYPERPLASIA TGLs = 9-7.2			
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
Note: HDN TGLs = 8-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 7-7.2			
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Mild
Note: LARGE FIBROUS COMPONENT AND SEEMED TO BE A MIX OF A Note: FIBROMA AND FIBROADENOMA. Note: THE FIBROADENOMA ARISING IN THE AXILLARY AREA HAD A [ Fibroadenoma TGLS = 3,4-13+14 ]			
Nose	Nasolacrim Dct	Inflammation	Chronic Active, Moderate
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 444

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863158

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Pars Distalis	Hyperplasia	Mild
Thymus	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Cyst	Minimal
Uterus	Endometrium	Hyperplasia	Minimal
[ Hyperplasia TGLS = 5-6 ]			Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 445

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863161

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Ileum  
Salivary Glands  
Trachea

Bone  
Intestine Large - Colon  
Intestine Small - Jejunum  
Skin  
Urinary Bladder

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Stomach - Forestomach

Brain  
Intestine Small - Duodenum  
Parathyroid Gland  
Thymus

OBSERVATIONS

Adrenal Gland  
Clitoral Gland

Cortex

Angiectasis  
Hyperplasia  
Inflammation  
Cardiomyopathy

Minimal  
Minimal  
Chronic Active, Minimal  
Mild

Heart  
Intestine Large

Cecum  
Cecum, Lamina Propria, Submucosa  
Cecum

Hyperplasia  
Inflammation  
Ulcer

Glandular, Minimal  
Chronic Active, Mild  
Minimal

Note: HYPERPLASIA TGLs = 5-7.2  
Note: ULCER TGLs = 5-7.2

Kidney  
Liver

Nephropathy  
Basophilic Focus  
Leukemia Mononuclear

Mild  
Minimal

Note: LEUKEMIA MONUC TGLs = 4-3  
Lung

Lymph Node

Artery  
Mesenteric, Sinus  
Mesenteric

Infiltration Cellular  
Mineralization  
Ectasia  
Infiltration Cellular

Histiocyte, Minimal  
Minimal  
Mild  
Histiocyte, Minimal

[ Ectasia TGLS = 3-7.2 ]

Mammary Gland  
Nose  
Ovary  
Pancreas  
Pituitary Gland

Pars Distalis  
Pars Distalis

Hyperplasia  
Inflammation  
Leukemia Mononuclear  
Inflammation  
Adenoma  
Cyst

Moderate  
Chronic Active, Minimal  
Chronic Active, Minimal  
Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 445	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 863161

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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
	Pars Intermed	Cyst	Minimal
Note: ADENOMA TGLs = 6-8 Spleen		Depletion Lymphoid Leukemia Mononuclear	Minimal
Note: THIS APPEARS TO BE AN EARLY MONUCLEAR CELL LEUKEMIA.			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Minimal

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 446

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863165

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Leukemia Mononuclear	
Clitoral Gland		Adenoma	
Note: ADENOMA TGLs = 3-10.1			
Eye		Cataract	Moderate
	Retina	Degeneration	Marked
		Phthisis Bulbi	Marked
Note: CATARACT TGLs = 2-13			
[ Phthisis Bulbi TGLS = 2-13 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
[ Hyperplasia TGLS = 5-7.1+7.2 ]			
[ Inflammation TGLS = 5-7.1+7.2 ]			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 6-7.2 ]			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 446

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863165

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Marked
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 9-8			
Salivary Glands	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen		Depletion Lymphoid	Moderate
		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Mild

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 447

TRT#: 9

SEX: Female

DAY ON TEST: 367

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863167

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Brain	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Nose	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Vacuolization Cytoplasmic	Mild
Note: LEUKEMIA MONUC TGLs = 9-8			
Bone Marrow	Sternal	Leukemia Mononuclear	
Clitoral Gland		Leukemia Mononuclear	
Heart		Leukemia Mononuclear	
Intestine Large	Cecum	Ulcer	Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
Liver		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-3			
Lung		Leukemia Mononuclear	
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-8+8.1			
Note: ECTASIA TGLs = 3-8.1			
Note: LEUKEMIA MONUC TGLs = 10-9			
Mammary Gland		Hyperplasia	Mild
Ovary		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8-6			
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 447	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 367
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Moribund	<b>HISTO:</b> 863167

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Pars Distalis	Cyst	Moderate
	Pars Distalis	Leukemia Mononuclear	
Note: ADENOMA TGLs = 5-8 Spleen		Depletion Lymphoid Leukemia Mononuclear	Marked
Note: LEUKEMIA MONUC TGLs = 2-3.1+3.2 Stomach	Glandular, Mucosa	Dilatation	Minimal

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 448

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863163

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
	Cecum	Ulcer	Minimal
Note: HYPERPLASIA TGLs = 4,5-7.1+7.2			
Note: [ ULCER ] TGLs = 4-7.2			
Note: INFLAMMATION TGLs = 4,5-7.1+7.2			
[ Hyperplasia TGLs = 4-7.1+7.2 ]			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Leukemia Mononuclear	
Note: THERE IS A SUGGESTION OF AN EARLY MONONUCLEAR CELL			
Note: LEUKEMIA IN THE LIVER.			
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLs = 1-7.2 ]			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 448	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 727
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 863163

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Minimal
Note: ADENOMA Stomach	TGLs = 3-8	Glandular, Mucosa	Dilatation
PRIMARY CAUSE OF DEATH	-		Minimal

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 449

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863166

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Parathyroid Gland
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild	
	Cortex	Hyperplasia	Minimal	
	Cortex	Leukemia Mononuclear		
	Medulla	Leukemia Mononuclear		
Clitoral Gland Note: DILATATION TGLs = 8-10	Duct	Dilatation	Mild	
Heart Intestine Large [ Hyperplasia TGLS = 9-7.1+7.2 ] [ Inflammation TGLS = 9-7.1+7.2 ]		Cardiomyopathy	Mild	
	Cecum	Hyperplasia	Glandular, Moderate	
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild	
Kidney	Transit Epithe	Hyperplasia	Minimal	
		Leukemia Mononuclear		
	Transit Epithe	Mineralization	Minimal	
		Nephropathy	Mild	
Liver Note: LEUKEMIA MONUC TGLs = 5-3	Bile Duct	Hyperplasia	Minimal	
		Inflammation	Chronic Active, Minimal	
		Leukemia Mononuclear		
		Leukemia Mononuclear		
Lung	Artery	Mineralization	Minimal	
	Mesenteric, Sinus	Ectasia	Marked	
		Mesenteric	Infiltration Cellular	Histiocyte, Minimal
		Mandibular	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 449

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863166

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Mesenteric	Leukemia Mononuclear	
[ Ectasia TGLS = 4-7.2 ]			
[ Leukemia Mononuclear TGLS = 2-9 ]			
Mammary Gland		Fibroadenoma Hyperplasia	Mild
[ Fibroadenoma TGLS = 3-13 ]			
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
Note: ADENOMA TGLs = 6-8			
Note: CYST TGLs = 6,7-8			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Spleen		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 450

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863164

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Hyperplasia	Minimal
Clitoral Gland		Adenoma	
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Rectum	Parasite Metazoan	Minimal
	Cecum	Ulcer	Minimal
Note: HYPERPLASIA	TGLs = 11-7.1+7.2		
Note: INFLAMMATION	TGLs = 11-7.1+7.2		
Note: [ ULCER ]	TGLs = 11-7.1+7.2		
Islets, Pancreatic		Carcinoma	
Note: [ CARCINOMA ]	TGLs = 6-9		
Kidney	Transit Epithe	Hyperplasia	Minimal
	Transit Epithe	Mineralization	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Mild
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA	TGLs = 8-7.2+8		

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 450

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863164

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Mammary Gland

Fibroadenoma

Hyperplasia

Moderate

Note: FIBROADENOMA TGLs = 4-13

[ Fibroadenoma TGLS = 2,3-10+13+14 ]

Nose

Inflammation

Chronic Active, Minimal

Pituitary Gland

Pars Distalis

Adenoma

Pars Distalis

Cyst

Minimal

Pars Distalis

Hyperplasia

Mild

Note: ADENOMA TGLs = 10-8

Stomach

Glandular, Mucosa

Dilatation

Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 451

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863169

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Minimal
Note: HYPERPLASIA	TGLs = 11-7.1+7.2		
Note: INFLAMMATION	TGLs = 11-7.1+7.2		
Note: [ ULCER ]	TGLs = 11-7.1+7.2		
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: HDN	TGLs = 6-3.1		
Note: LEUKEMIA MONUC	TGLs = 9-3+3.1		
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC	TGLs = 7-1+2		
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA	TGLs = 5-7.2		
Mammary Gland		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 451	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 727
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 863169

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibroadenoma TGLS = 3,10-13 ]		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 452

TRT#: 9

SEX: Female

DAY ON TEST: 528

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863171

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Mild
Note: ULCER TGLs = 5-7.2 [ Hyperplasia TGLS = 5-7.2 ] [ Ulcer TGLS = 5-7.2 ]			
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: GIANT CELLS WERE NOTED IN THE LUNG. Note: SEVERAL SMALL FOCI OF MULTINUCLEATED HISTIOCTIC			
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 2-7.2 ]			
Mammary Gland		Hyperplasia	Minimal
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 452

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 528

**DOSE:** 50,000 PPM FEM

**DISP:** Moribund

**HISTO:** 863171

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: CYST      TGLs = 4-8

Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland		Ultimobranchial Cyst	Minimal
Uterus	Endometrium	Hyperplasia	Minimal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 453

TRT#: 9

SEX: Female

DAY ON TEST: 510

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863172

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Clitoral Gland
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Pancreas
Salivary Glands	Skin	Stomach - Forestomach	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex Medulla	Leukemia Mononuclear Leukemia Mononuclear	
Heart		Cardiomyopathy Leukemia Mononuclear	Minimal
Intestine Large	Cecum Cecum, Lamina Propria, Submucosa Cecum	Hyperplasia Inflammation Leukemia Mononuclear	Glandular, Mild Chronic Active, Mild
Note: HYPERPLASIA	TGLs = 5,10-7.1+7.2		
Kidney		Leukemia Mononuclear Nephropathy	Minimal
Note: THE PIGMENTATION IN THE KIDNEY IS MORE IN THE CORTEX			
Note: THAN THE MEDULLA.			
Liver		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-3		
Lung		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-1+2		
Lymph Node	Mesenteric, Sinus Mesenteric Mesenteric	Ectasia Infiltration Cellular Leukemia Mononuclear	Mild Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Ovary		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 453

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 510

**DOSE:** 50,000 PPM FEM

**DISP:** Moribund

**HISTO:** 863172

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland

Pars Distalis

Cyst

Minimal

Pars Distalis

Leukemia Mononuclear

Spleen

Depletion Lymphoid

Moderate

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 6-3.1

Stomach

Glandular, Mucosa

Dilatation

Minimal

Thymus

Cyst

Minimal

Leukemia Mononuclear

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 454

TRT#: 9

SEX: Female

DAY ON TEST: 728

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863168

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Nose
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Hyperplasia	Minimal
	Medulla	Hyperplasia	Minimal
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
	[ Adenoma TGLS = 4-10 ]		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Moderate
	Note: ULCER TGLs = 8-7.2		
	Note: [ HYPERPLASIA ] TGLs = 8-7.2		
	[ Ulcer TGLS = 8-7.2 ]		
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
	Note: THERE COULD BE AN EARLY MONONUCLEAR CELL LEUKEMIA.		
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
	Note: SINUSOIDS OF THE MESENTERIC LYMPH NODE APPEAR TO		

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 454

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 728

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863168

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ECTASIA TGLs = 7-7.2

Note: BE FILLED WITH MONONUCLEAR CELL LEUKEMIA CELLS.

Mammary Gland

Fibroadenoma

Hyperplasia

Moderate

[ Hyperplasia TGLS = 5-13 ]

Pituitary Gland

Pars Distalis

Adenoma

Pars Distalis

Cyst

Minimal

Note: ADENOMA TGLs = 9-8

Stomach

Glandular, Mucosa

Dilatation

Minimal

Thyroid Gland

C Cell

Adenoma

C Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 455

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863170

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Intestine Large - Colon  
Intestine Small - Jejunum  
Pancreas  
Stomach - Forestomach  
Uterus

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Parathyroid Gland  
Thymus

Brain  
Intestine Small - Duodenum  
Lung  
Skin  
Trachea

Esophagus  
Intestine Small - Ileum  
Ovary  
Spleen  
Urinary Bladder

OBSERVATIONS

Adrenal Gland

Cortex  
Cortex

Angiectasis  
Vacuolization Cytoplasmic

Minimal  
Minimal

Bone

Cranium  
Sternum

Hyperostosis  
Osteopetrosis

Mild  
Moderate

Note: HYPEROSTOSIS TGLs = 7-12

Clitoral Gland

Adenoma

Mild

Heart

Hyperplasia  
Cardiomyopathy

Mild

Intestine Large

Cecum  
Cecum, Lamina Propria, Submucosa

Hyperplasia  
Inflammation

Glandular, Mild  
Chronic Active, Mild

Note: INFLAMMATION TGLs = 8-7.1+7.2

Note: HYPERPLASIA TGLs = 8-7.1+7.2

Kidney

Nephropathy

Mild

Liver

Basophilic Focus  
Inflammation

Minimal  
Chronic Active, Minimal

Lymph Node

Mesenteric, Sinus  
Mesenteric

Ectasia  
Infiltration Cellular

Moderate  
Histiocyte, Minimal

Note: ECTASIA TGLs = 4-7.2

Mammary Gland

Fibroadenoma  
Hyperplasia

Mild

Note: FIBROADENOMA TGLs = 2-13

Nose

Inflammation

Chronic Active, Minimal

Pituitary Gland

Pars Distalis

Hyperplasia

Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 455

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863170

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Note: [ HYPERPLASIA ] TGLs = 6-8

Salivary Glands

Duct, Submandibul GI

Hyperplasia

Minimal

Duct, Submandibul GI

Metaplasia

Squamous, Minimal

Stomach

Glandular, Mucosa

Dilatation

Mild

Thyroid Gland

C Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 456

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863174

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex  
Esophagus  
Intestine Small - Ileum  
Pancreas  
Spleen  
Urinary Bladder

Bone  
Intestine Large - Colon  
Intestine Small - Jejunum  
Parathyroid Gland  
Stomach - Forestomach

Bone Marrow  
Intestine Large - Rectum  
Islets, Pancreatic  
Salivary Glands  
Thymus

Brain  
Intestine Small - Duodenum  
Ovary  
Skin  
Trachea

OBSERVATIONS

Adrenal Gland  
Clitoral Gland  
Heart  
Intestine Large

Medulla  
  
Cecum  
Cecum, Lamina Propria, Submucosa  
Cecum

Pheochromocytoma Benign  
Inflammation  
Cardiomyopathy  
Hyperplasia  
Inflammation  
Parasite Metazoan

Chronic Active, Minimal  
Mild  
Glandular, Mild  
Chronic Active, Minimal  
Minimal

[ Parasite Metazoan TGLS = 5-7.1+7.2 ]

Kidney

Transit Epithe

Hyperplasia  
Nephropathy  
Basophilic Focus  
Inflammation

Minimal  
Mild  
Minimal  
Chronic Active, Minimal

Liver

Lung

Artery  
Mesenteric, Sinus  
Mesenteric

Mineralization  
Ectasia  
Infiltration Cellular

Minimal  
Moderate  
Histiocyte, Minimal

[ Ectasia TGLS = 4-7.2 ]

Mammary Gland

Nose

Pituitary Gland

Pars Distalis  
Pars Distalis

Hyperplasia  
Inflammation  
Angiectasis  
Cyst

Moderate  
Chronic Active, Mild  
Moderate  
Mild

Note: [ ANGIECTASIS ] TGLs = 6-8

Stomach

Thyroid Gland

Glandular, Mucosa  
C Cell

Dilatation  
Adenoma

Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 456

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863174

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Uterus

Polyp Stromal

[ Polyp Stromal TGLS = 3-6.1 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 457

TRT#: 9

SEX: Female

DAY ON TEST: 455

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853114

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Clitoral Gland	Esophagus	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Mammary Gland	Nose	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Colon, Epithelium	Pigmentation	Minimal
	Cecum	Ulcer	Mild
Note: INFLAMMATION TGLs = 6-7.1			
Note: ULCER TGLs = 4-7.1			
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: PIGMENT TGLs = 4-7			
Kidney		Nephropathy	Minimal
Liver	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: ECTASIA TGLs = 3-8			
Pituitary Gland	Pars Distalis	Adenoma	
Uterus		Hydrometra	Moderate
Note: HYDROMETRA TGLs = 1-6			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 458

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863173

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Ovary	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Benign	
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Moderate
Note: ULCER TGLs = 6,7,8-7.1 [ Inflammation TGLS = 6,7,8-7.2 ] [ Ulcer TGLS = 6,7,8-7.1+7.2 ]			
Kidney		Nephropathy	Minimal
Liver		Clear Cell Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 3-7.2			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Mild
Note: ADENOMA TGLs = 5-8			
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 458

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863173

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular, Mucosa

Dilatation

Minimal

Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 459

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863175

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: HYPERPLASIA	TGLs = 8-7.2		
Note: INFLAMMATION	TGLs = 8-7.2		
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Mild
		Inflammation	Chronic Active, Mild
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Marked
Note: ECTASIA	TGLs = 7-7.2		
Note: INFILTRAT CELL	TGLs = 5-9		
Mammary Gland		Hyperplasia	Mild
[ Hyperplasia TGLS = 2-10 ]			
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Vacuolization Cytoplasmic	Mild
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 459	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 729
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 863175

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA Spleen	TGLs = 10-8	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA Note: INFILTRAT CELL	TGLs = 6-3.1 TGLs = 6-3.1		Hyperplasia Infiltration Cellular	Lymphoid, Moderate Histiocyte, Moderate
Stomach		Glandular, Mucosa	Dilatation	Mild
Thyroid Gland		C Cell	Hyperplasia	Mild
Uterus		Endometrium	Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 3-6			

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 460

TRT#: 9

SEX: Female

DAY ON TEST: 598

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863176

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Eye	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex Medulla	Leukemia Mononuclear Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
Intestine Large	Cecum Cecum, Lamina Propria, Submucosa	Hyperplasia Inflammation	Glandular, Moderate Chronic Active, Mild
Note: HYPERPLASIA TGLs = 14-7.2			
Kidney	Transit Epithe	Hyperplasia Leukemia Mononuclear	Minimal
Note: YELLOW PIGMENTATION IN THE TUBULAR EPITHELIUM IS Note: COMMON IN RATS WITH MONUCLEAR LEUKEMIA.			
Liver		Fatty Change Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLs = 10-3 ]			
Lung		Infiltration Cellular Leukemia Mononuclear	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 11-1			
Lymph Node	Mesenteric, Sinus Mesenteric	Ectasia Infiltration Cellular	Moderate Histiocyte, Minimal
Note: ECTASIA TGLs = 6-7.2			
Mammary Gland		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 460

TRT#: 9

SEX: Female

DAY ON TEST: 598

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863176

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: FIBROADENOMA TGLs = 7-13.1 Note: WHAT WAS THOUGHT TO BE AN AXILLARY LYMPH NODE Note: TURNED OUT TO BE A MAMMARY GLAND FIBROADENOMA.		Hyperplasia	Mild
Mesentery		Fibrosis Inflammation Leukemia Mononuclear Necrosis	Mild Chronic Active, Mild Liquifactive, Mild
Note: INFLAMMATION TGLs = 3-3 [ Fibrosis TGLS = 3-3 ] [ Leukemia Mononuclear TGLS = 3-3 ] [ Necrosis TGLS = 3-3 ]			
Ovary Note: LEUKEMIA MONUC TGLs = 4-6		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy Inflammation Leukemia Mononuclear	Minimal Chronic Active, Minimal
Pituitary Gland	Pars Distalis Pars Distalis	Cyst Leukemia Mononuclear	Minimal
Note: LEUKEMIA MONUC TGLs = 13-8 Spleen		Depletion Lymphoid Leukemia Mononuclear	Moderate
Note: LEUKEMIA MONUC TGLs = 5-3.1 Stomach	Glandular, Mucosa	Dilatation	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 461

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863179

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Bone	Sternum	Osteopetrosis	Moderate
Clitoral Gland		Hyperplasia	Moderate
		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: HYPERPLASIA TGLs = 5-7.1+7.2 [ Hyperplasia TGLS = 5-7.1+7.2 ]			
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 6-7.2			
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
Note: HYPERPLASIA TGLs = 3-10.1 [ Fibroadenoma TGLS = 2-10 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

---

**ANIMAL ID:** 461

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863179

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Uterus

Polyp Stromal

Note: POLYP STROMAL TGLs = 4-6

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 462

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863177

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Ovary	Parathyroid Gland	Salivary Glands	Skin
Spleen	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Adenoma	
Note: [ ADENOMA ] TGLs = 3-10			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: HYPERPLASIA TGLs = 7-7.2 [ Hyperplasia TGLs = 7-7.2 ]			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Minimal
Note: HDN TGLs = 5-3.1			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 4-7.2			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Foreign Body	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 462

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863177

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: HAIR SHAFT.

Note: BENEATH THE STATUM CORNEUM OF THE FORESTOMACH WAS A

Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Hydrometra

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 463

TRT#: 9

SEX: Female

DAY ON TEST: 457

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853115

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Mammary Gland
Nose	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum, Lamina Propria, Submucosa Colon, Epithelium	Inflammation Pigmentation	Chronic Active, Minimal Minimal
Note: PIGMENT TGLs = 2-7 [ Pigmentation TGLS = 4-7.1 ]			
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: LUMENAL SURFACE OF THE ILEUM. Note: IN ADDITION TO THE RODS THERE WERE CHAINS OF COCCI Note: PROBABLY STREPTOCOCCI. Note: INCREASED NUMBERS OF BACTERIAL RODS WERE NOTED ON THE Note: PIGMENT TGLs = 3-7			
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus Inflammation	Minimal Chronic, Minimal
Lymph Node	Mesenteric, Sinus Mesenteric Mesenteric	Ectasia Infiltration Cellular Pigmentation	Moderate Histiocyte, Minimal Minimal
Note: ECTASIA TGLs = 1-7.1+8			
Ovary		Inflammation	Chronic, Moderate
Note: INFILTRATES OF LYMPHOCYTES AND PLASMA CELLS WERE NOTED IN Note: THE STROMA OF THE OVARY AND CORPORA LUTEA.			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 463

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 457

**DOSE:** 50,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853115

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas		Inflammation	Chronic, Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Mild
Uterus		Hydrometra	Mild

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 464

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863178

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Ovary	Parathyroid Gland	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex Medulla	Angiectasis Leukemia Mononuclear	Minimal
Clitoral Gland		Adenoma	
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum Cecum, Lamina Propria, Submucosa Cecum Cecum	Hyperplasia Inflammation Parasite Metazoan Ulcer	Glandular, Moderate Chronic Active, Moderate Minimal Moderate
Note: INFLAMMATION TGLs = 5-7.1+7.2 [ Parasite Metazoan TGLs = 5-7.2 ] [ Ulcer TGLs = 5-7.1+7.2 ]			
Islets, Pancreatic		Adenoma	
Kidney		Nephropathy	Mild
Liver		Basophilic Focus Leukemia Mononuclear	Minimal
Note: LEUKEMIA MONUC TGLs = 6-3			
Lung	Alveolar Epith	Hyperplasia Infiltration Cellular	Moderate Histiocyte, Minimal
	Artery	Mineralization	Minimal
Note: [ HYPERPLASIA ] TGLs = 8-1			
Lymph Node	Mesenteric, Sinus Mesenteric Mesenteric	Ectasia Infiltration Cellular Leukemia Mononuclear	Moderate Histiocyte, Minimal
[ Ectasia TGLs = 4-7.2 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 464

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863178

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
		Vacuolization Cytoplasmic	Minimal
Pituitary Gland	Pars Distalis	Adenoma	Multiple
	Pars Distalis	Cyst	Minimal
Note: ADENOMA	TGLs = 7-8		
Salivary Glands	Duct, Submandibul GI	Hyperplasia	Minimal
	Submandibul GI	Inflammation	Chronic Active, Minimal
	Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3.1 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 465

TRT#: 9

SEX: Female

DAY ON TEST: 729

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863180

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone Marrow	Brain	Esophagus	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Ovary	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Medulla	Hyperplasia	Minimal
Bone	Sternum	Osteopetrosis	Moderate
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Parasite Metazoan	Minimal
Note: HYPERPLASIA	TGLs = 9-7.1+7.2		
Note: INFLAMMATION	TGLs = 9-7.1+7.2		
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Mild
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Minimal
Note: HDN	TGLs = 4-3.1		
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA	TGLs = 10-7.2+8		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:13  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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**ANIMAL ID:** 465

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863180

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland

Pars Distalis

Angiectasis

Moderate

Pars Distalis

Cyst

Minimal

Note: [ ANGIECTASIS ] TGLs = 6-8

Salivary Glands

Submandibul GI

Inflammation

Chronic Active, Minimal

Duct, Submandibul GI

Metaplasia

Squamous, Minimal

Stomach

Glandular, Mucosa

Dilatation

Minimal

Uterus

Polyp Stromal

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PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 466

TRT#: 9

SEX: Female

DAY ON TEST: 728

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863181

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Lung	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Note: 1991 CONVERSION DISCREPANCY. ORIGINAL DIAGNOSIS SITE NOT SPECIFIED.			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
	[ Hyperplasia TGLS = 12-7.1+7.2 ]		
	[ Inflammation TGLS = 12-7.1+7.2 ]		
Kidney		Nephropathy	Moderate
Note: OF ONE KIDNEY. IT PROBABLY REPRESENTS A TRANSPLANT.			
Note: A CROSS SECTION OF A NEMATODE WAS NOTED IN THE PELVIS			
Note: NEPHROPATHY TGLs = 5-4			
Liver		Angiectasis	Mild
		Clear Cell Focus	Minimal
		Leukemia Mononuclear	
Note: ANGIECTASIS TGLs = 10-3			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mandibular	Leukemia Mononuclear	
Note: ECTASIA TGLs = 4,13-7.2			
Note: LEUKEMIA MONUC TGLs = 8-9			
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 466

TRT#: 9

SEX: Female

DAY ON TEST: 728

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863181

ORGAN AND ACCOUNTABLE SITE STATUS

Note: HYPERPLASIA TGLs = 14-10  
[ Fibroadenoma TGLS = 3-13 ]

Nose		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Intermed	Angiectasis	Mild
	Pars Distalis	Cyst	Minimal

Note: ANGIECTASIS TGLs = 7-8

Spleen		Leukemia Mononuclear	
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Note: LEUKEMIA MONUC TGLs = 11-3.1

Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 467

TRT#: 9

SEX: Female

DAY ON TEST: 518

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863185

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Clitoral Gland	Esophagus	Eye
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Kidney	Liver
Nose	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

MISSING

Thymus

OBSERVATIONS

Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: HYPERPLASIA TGLs = 5-7.1+7.2+7.3			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 6-7.1			
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Cyst	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperplasia	Squamous, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 468

TRT#: 9

SEX: Female

DAY ON TEST: 728

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863183

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

MISSING

Clitoral Gland

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
		Cytoplasmic Alteration	Mild
Note: CYTOPLAS ALTER TGLs = 7-3			
Note: IN MY ESTIMATE THE LESIONS DIAGNOSED AS CYTOPLASMIC			
Note: ALTERATIONS WERE NOT BONIFIED NEOPLASTIC NODULES.			
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 3-7.1+8 ]			
Mammary Gland		Fibroadenoma	
		Hyperplasia	Mild
[ Fibroadenoma TGLS = 2-13+13.1 ]			
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
Note: ADENOMA TGLs = 5-8			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:13

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 468

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 728

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863183

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular, Mucosa

Dilatation

Minimal

Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 469

TRT#: 9

SEX: Female

DAY ON TEST: 700

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863184

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Skin	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Necrosis	Coagulative, Marked
	Cortex	Vacuolization Cytoplasmic	Mild
Note: LEUKEMIA MONUC TGLs = 9-8			
Note: NECROSIS TGLs = 10-8			
Clitoral Gland		Inflammation	Chronic Active, Moderate
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: HYPERPLASIA TGLs = 11-7.2			
Kidney		Leukemia Mononuclear	
Liver		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-3			
Lung		Fibrosis	Moderate
		Leukemia Mononuclear	
Note: SECONDARY TO THE LEUKEMIC INFILTRATES.			
Note: THERE WAS MARKED FIBROSIS THROUGHOUT THE LUNG APPARENTLY			
Note: LEUKEMIA MONUC TGLs = 5,8-1+2			
Note: FIBROSIS TGLs = 5,8-1+2			
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
[ Ectasia TGLS = 3-7.2 ]			
Mammary Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:13

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 469

TRT#: 9

SEX: Female

DAY ON TEST: 700

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863184

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose		Inflammation	Chronic Active, Minimal
Ovary		Leukemia Mononuclear	
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Mild
	Pars Distalis	Leukemia Mononuclear	
Note: ADENOMA	TGLs = 7-8		
Spleen		Depletion Lymphoid	Marked
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-3		
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Inflammation	Chronic Active, Minimal
Note: HYPERPLASIA	TGLs = 12-7		
	[ Dilatation TGLS = 12-7 ]		
Thymus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 470

TRT#: 9

SEX: Female

DAY ON TEST: 728

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863182

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Ovary
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Adenoma	
	Cortex	Angiectasis	Minimal
	Cortex	Hyperplasia	Minimal
Note: ADENOMA TGLs = 7-8			
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Minimal
Note: [ ADENOMA ] TGLs = 2-10			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Rectum	Parasite Metazoan	Minimal
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 6-7.1			
Mammary Gland		Hyperplasia	Mild
Nose	Nasolacrim Dct	Inflammation	Chronic Active, Mild
		Inflammation	Chronic Active, Minimal
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 470

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 728

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863182

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA      TGLs = 4-8

Stomach

Glandular, Mucosa

Dilatation

Mild

Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 471

TRT#: 9

SEX: Female

DAY ON TEST: 455

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853117

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Nose	Ovary
Pancreas	Parathyroid Gland	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Eye	Lens	Cataract	Mild
	Retina	Degeneration	Marked
Note: CATARACT	TGLs = 2-6		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Colon, Epithelium	Pigmentation	Minimal
	Cecum	Ulcer	Moderate
Note: INFLAMMATION	TGLs = 7-7.1		
Note: ULCER	TGLs = 7-7.1		
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: PIGMENT	TGLs = 4-7		
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Inflammation	Chronic, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: ECTASIA	TGLs = 6-7.2		
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Cyst	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 471

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 455

**DOSE:** 50,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853117

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pars Distalis

Hyperplasia

Mild

Submandibul GI

Inflammation

Chronic, Minimal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 472

TRT#: 9

SEX: Female

DAY ON TEST: 457

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853116

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Liver	Ovary	Parathyroid Gland
Pituitary Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Adenoma	
Note: ADENOMA TGLs = 2-10		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Colon, Epithelium	Pigmentation	Minimal
	Cecum	Ulcer	Mild
Note: ULCER TGLs = 5-7.1			
Note: INFLAMMATION TGLs = 5-7.1			
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: PIGMENT TGLs = 6-7			
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Lung		Hemorrhage	Minimal
	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Histiocyte, Minimal
Note: HEMORRHAGE TGLs = 7-2			
Note: MINOR HEMORRHAGES IN ALVEOLI REPRESENT HANDLING ARTEFACTS.			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
	Mesenteric	Pigmentation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:14  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 472	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 457
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Interval Sacrifice	<b>HISTO:</b> 853116

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ECTASIA	TGLs = 4-7.1		
Mammary Gland		Hyperplasia	Minimal
Nose	Nasopharyn Dct	Inflammation	Acute, Minimal
Pancreas		Inflammation	Chronic, Minimal
Uterus		Hydrometra	Minimal

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**PRIMARY CAUSE OF DEATH** -

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Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 473

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863187

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Pituitary Gland
Skin	Stomach - Forestomach	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Mild
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Adenoma	
		Leukemia Mononuclear	
Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: HYPERPLASIA	TGLs = 7-7.1+7.2		
Kidney		Nephropathy	Moderate
Note: NEPHROPATHY	TGLs = 4,5-4		
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 6-3		
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: ECTASIA	TGLs = 3-7.2		
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Ovary		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 473

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863187

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas		Leukemia Mononuclear	
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
	Submandibul GI	Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Cyst	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus	Endometrium	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 474

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863186

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Ovary	Parathyroid Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Trachea	Urinary Bladder
Uterus			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Minimal
	Cecum	Ulcer	Minimal
Note: [ ULCER ] TGLs = 10-7.1			
Note: INFLAMMATION TGLs = 10-7.1			
Note: HYPERPLASIA TGLs = 10-7.1+7.2			
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 6-7.2			
Mammary Gland		Hyperplasia	Mild
Note: HYPERPLASIA TGLs = 2,3-10+13			
Nose		Inflammation	Chronic Active, Minimal
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 474

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863186

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach  
Thyroid Gland

Pars Distalis  
Glandular, Mucosa  
C Cell

Cyst  
Dilatation  
Hyperplasia

Mild  
Minimal  
Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 475

TRT#: 9

SEX: Female

DAY ON TEST: 673

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863188

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Eye	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Parathyroid Gland	Pituitary Gland	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Vacuolization Cytoplasmic	Minimal
Clitoral Gland		Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: HYPERPLASIA TGLs = 8-7.1+7.2			
Kidney		Leukemia Mononuclear	
	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: HDN TGLs = 6-3			
Lung	Alveolar Epith	Hyperplasia	Minimal
		Leukemia Mononuclear	
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-9 [ Ectasia TGLS = 4-7.2 ]			
Mammary Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**ANIMAL ID:** 475

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 673

**DOSE:** 50,000 PPM FEM

**DISP:** Moribund

**HISTO:** 863188

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose		Inflammation	Chronic Active, Marked
Note: SPECIES.			
Note: THE NASAL PASSAGES ARE FILLED WITH NEUTROPHILS			
Note: SURROUNDING FUNGAL MYCELIA, PRESUMABLY ASPERGILLUS			
Ovary		Leukemia Mononuclear	
Salivary Glands	Parotid GI	Atrophy	Minimal
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-3			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Hyperplasia	Minimal

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 476

TRT#: 9

SEX: Female

DAY ON TEST: 721

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863192

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Eye	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Ovary	Parathyroid Gland	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	Uterus

OBSERVATIONS

Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: HYPERPLASIA TGLs = 4,11-7.1+7.2			
Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-3			
Lung		Infiltration Cellular	Histiocyte, Minimal
		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: INFILTRAT CELL TGLs = 8-1+2			
Note: LEUKEMIA MONUC TGLs = 9,12-1+2			
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: ECTASIA TGLs = 5-8			
Note: LEUKEMIA MONUC TGLs = 5-7.2+8			
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Turmeric, oleoresin (curcumin)  
**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014  
**Time Report Requested:** 04:12:14  
**First Dose M/F:** NA / NA  
**Lab:** TSI MASON

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<b>ANIMAL ID:</b> 476	<b>TRT#:</b> 9	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 721
	<b>DOSE:</b> 50,000 PPM FEM	<b>DISP:</b> Moribund	<b>HISTO:</b> 863192

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Acinus	Atrophy Leukemia Mononuclear	Minimal
Pituitary Gland	Pars Distalis Pars Distalis Pars Distalis	Cyst Hyperplasia Leukemia Mononuclear	Mild Minimal
Salivary Glands	Submandibul GI Duct, Submandibul GI	Inflammation Metaplasia	Chronic Active, Minimal Squamous, Mild
Spleen		Fibrosis Leukemia Mononuclear	Moderate
	[ Fibrosis TGLS = 3-3.1 ]		
	[ Leukemia Mononuclear TGLS = 3-3.1 ]		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Leukemia Mononuclear	
	Note: LEUKEMIA MONUC TGLs = 7-2		
Urinary Bladder		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 477

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863190

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Marked
		[ Hyperplasia TGLS = 7-7.1+7.2 ]	
		[ Inflammation TGLS = 7-7.2 ]	
		[ Ulcer TGLS = 7-7.2 ]	
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver		Cytoplasmic Alteration	Mild
		Leukemia Mononuclear	
		Note: MONONUCLEAR LEUKEMIA WITH THE RED PULP AND SINUSOIDS	
		Note: SHOWING INCREASED NUMBERS OF MONONUCLEAR CELLS.	
		Note: BOTH THE SPLEEN AND THE LIVER SHOW SIGNS OF AN EARLY	
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
		[ Ectasia TGLS = 4-7.2 ]	
Mammary Gland		Fibroadenoma	
		Hyperplasia	Moderate
		[ Fibroadenoma TGLS = 2-13 ]	
Nose		Inflammation	Chronic Active, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

---

**ANIMAL ID:** 477

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863190

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Pituitary Gland

Pars Distalis

Cyst

Moderate

Note: CYST      TGLs = 5-8

Spleen

Leukemia Mononuclear

Uterus

Polyp Stromal

[ Polyp Stromal TGLS = 6-6 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 478

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863189

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Skin
Spleen	Stomach - Forestomach	Trachea	Urinary Bladder

MISSING

Parathyroid Gland	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Mild
Note: [ ADENOMA ] TGLs = 4-10			
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Colon	Parasite Metazoan	Minimal
Note: HYPERPLASIA TGLs = 9-7.1+7.2			
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Minimal
Note: IN MONUCLEAR CELLS IN LIVER SINUSOIDS SUGGESTING AN			
Note: INITIALLY I THOUGHT THERE WAS A SLIGHT INCREASE			
Note: EARLY MONUCLEAR CELL LEUKEMIA; HOWEVER, IT WAS NOT			
Note: CONVINCING.			
[ Hepatodiaphragmatic Nodule TGLS = 7-3 ]			
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 478

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863189

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: ECTASIA TGLs = 8-7.2

Mammary Gland

Fibroadenoma

Hyperplasia

Mild

[ Fibroadenoma TGLS = 2-13 ]

Nose

Inflammation

Chronic Active, Minimal

Pancreas

Inflammation

Chronic Active, Minimal

Pituitary Gland

Pars Distalis

Hyperplasia

Moderate

Salivary Glands

Submandibul GI

Inflammation

Chronic Active, Minimal

Stomach

Glandular, Mucosa

Dilatation

Minimal

Thyroid Gland

C Cell

Hyperplasia

Mild

Uterus

Hydrometra

Moderate

Note: HYDROMETRA TGLs = 5,6-6+6.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 479

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863191

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Pancreas	Parathyroid Gland	Skin
Spleen	Stomach - Forestomach	Thymus	Trachea
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Cecum	Ulcer	Moderate
Note: ULCER TGLs = 5-7.1+7.2 [ Hyperplasia TGLS = 5-7.1+7.2 ] [ Inflammation TGLS = 5-7.1+7.2 ]			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Mild
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 6-7.2 ]			
Mammary Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Angiectasis	Marked
	Pars Distalis	Cyst	Minimal
	Pars Distalis	Hyperplasia	Moderate
Note: ANGIECTASIS TGLs = 8-8			
Salivary Glands	Submandibul GI	Inflammation	Chronic Active, Minimal
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 479

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863191

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thyroid Gland

C Cell

Hyperplasia

Mild

Urinary Bladder

Inflammation

Chronic Active, Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 480

TRT#: 9

SEX: Female

DAY ON TEST: 457

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853118

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Jejunum	Islets, Pancreatic	Liver	Nose
Ovary	Parathyroid Gland	Pituitary Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
	Colon, Epithelium	Pigmentation	Minimal
	Cecum	Ulcer	Moderate
Note: ULCER TGLs = 7-7.1			
Note: HYPERPLASIA TGLs = 7-7.1			
Note: PIGMENT TGLs = 9-7			
Note: INFLAMMATION TGLs = 7-7.1			
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: PIGMENT TGLs = 10-7			
Kidney		Nephropathy	Mild
Lung		Infiltration Cellular	Histiocyte, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Mild
	Mesenteric	Pigmentation	Minimal
Note: ECTASIA TGLs = 2,3-7.2+7.3			
Mammary Gland		Hyperplasia	Minimal
Pancreas		Atrophy	Minimal
		Inflammation	Chronic, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 481

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863193

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Heart		Cardiomyopathy	Moderate
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Minimal
Note: [ ULCER ] TGLs = 2-7.2 [ Hyperplasia TGLS = 2-7.2 ] [ Inflammation TGLS = 2-7.2 ]			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Clear Cell Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
[ Ectasia TGLS = 4-7.2 ]			
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-8			
Stomach	Glandular, Mucosa	Dilatation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

---

**ANIMAL ID:** 481

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863193

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 482

TRT#: 9

SEX: Female

DAY ON TEST: 457

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853120

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Eye	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Mammary Gland	Ovary
Pancreas	Pituitary Gland	Salivary Glands	Skin
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Colon, Epithelium	Pigmentation	Minimal
	Epithelium, Rectum	Pigmentation	Minimal
	Cecum	Ulcer	Mild
Note: HYPERPLASIA	TGLs = 5-7.1		
Note: INFLAMMATION	TGLs = 5-7.1		
Note: ULCER	TGLs = 5-7.1		
Note: PIGMENT	TGLs = 6-7		
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: PIGMENT	TGLs = 7-7		
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
Note: ECTASIA	TGLs = 4-7.1		
Nose	Nasolacrim Dct	Inflammation	Acute, Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 482

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 457

**DOSE:** 50,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853120

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 483

TRT#: 9

SEX: Female

DAY ON TEST: 659

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863195

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Eye	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Islets, Pancreatic	Ovary	Pancreas
Salivary Glands	Spleen	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

MISSING

Esophagus	Parathyroid Gland	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Autolysis	Moderate
	Cecum	Hyperplasia	Glandular, Minimal
Intestine Small	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Marked
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Fatty Change	Mild
		Hepatodiaphragmatic Nodule	
		Inflammation	Chronic Active, Mild
Note: FATTY CHANGE	TGLs = 9-3		
Note: HDN	TGLs = 8-3		
Lung		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Mammary Gland		Hyperplasia	Mild
Nose		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	Minimal
Note: ADENOMA	TGLs = 11-8		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 483

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 659

**DOSE:** 50,000 PPM FEM

**DISP:** Moribund

**HISTO:** 863195

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Skin	Subcut Tiss	Schwannoma Malignant	
Note: [ SCHWANNOMA MAL ]	TGLs = 4-13+13.1		
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Hyperkeratosis	Minimal
	Forestomach	Hyperplasia	Squamous, Minimal
	Forestomach	Ulcer	Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 484

TRT#: 9

SEX: Female

DAY ON TEST: 457

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853119

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Jejunum	Islets, Pancreatic	Mammary Gland	Nose
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Colon, Epithelium	Pigmentation	Mild
	Cecum	Ulcer	Moderate
Note: ULCER	TGLs = 7-7.1		
Note: PIGMENT	TGLs = 8-7+7.1+7.2		
Note: INFLAMMATION	TGLs = 7-7.1+7.2		
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Kidney		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mediastinal	Hemorrhage	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Pancreatic	Infiltration Cellular	Histiocyte, Mild
	Mesenteric	Pigmentation	Minimal
	Pancreatic	Pigmentation	Minimal
Note: PIGMENT	TGLs = 6-9		
Note: HEMORRHAGE	TGLs = 5-2		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

---

**ANIMAL ID:** 484

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 457

**DOSE:** 50,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853119

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ECTASIA TGLs = 4-7.1+8

Note: INFILTRAT CELL TGLs = 6-9

Pituitary Gland

Pars Distalis

Hyperplasia

Mild

Uterus

Endometrium

Hyperplasia

Minimal

Polyp Stromal

Note: POLYP STROMAL TGLs = 3-6

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 485

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863194

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Ovary	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Mild
[ Adenoma TGLS = 3-10.1 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: HYPERPLASIA TGLs = 6-7.1			
Kidney		Cyst	Mild
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Marked
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 4-7.2			
Mammary Gland		Hyperplasia	Mild
Pancreas	Acinus	Atrophy	Minimal
		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Moderate
	Pars Distalis	Cyst	Mild
Note: [ ANGIECTASIS ] TGLs = 5-8			
Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus		Hydrometra	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 485

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863194

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 486

TRT#: 9

SEX: Female

DAY ON TEST: 311

DOSE: 50,000 PPM FEM

DISP: Dead

HISTO: 863200

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Brain	Esophagus
Nose	Ovary	Parathyroid Gland	Salivary Glands
Spleen	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Clitoral Gland	Intestine Large - Colon	Islets, Pancreatic	Pancreas
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INSUFFICIENT TISSUE

Skin

OBSERVATIONS

Adrenal Gland Note: HEMORRHAGE TGLs = 7-8	Cortex	Hemorrhage	Mild
Bone Marrow	Sternal	Autolysis	Moderate
Heart		Cardiomyopathy	Mild
Intestine Large Note: AUTOLYSIS TGLs = 10-7+7.1+7.2 Note: INFLAMMATION TGLs = 10-7.3+7.4	Cecum	Autolysis	Marked
	Rectum	Autolysis	Marked
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Intestine Small	Duodenum	Autolysis	Marked
	Ileum	Autolysis	Marked
	Jejunum	Autolysis	Marked
Kidney		Autolysis	Mild
Liver		Inflammation	Chronic Active, Minimal
Lung	Artery	Mineralization	Minimal
Lymph Node Note: ECTASIA TGLs = 9-7.2	Mesenteric, Sinus	Ectasia	Mild
Mammary Gland		Hyperplasia	Minimal
Pituitary Gland	Pars Distalis	Cyst	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 487

TRT#: 9

SEX: Female

DAY ON TEST: 728

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863196

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Skin	Spleen	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Brain			
Note: DILATED; HOWEVER, THE HANDLING OF THE BRAIN MAY			
Note: INTERPRETE.			
Note: HAVE BEEN ROUGH MAKING BRAIN MORPHOLOGY HARD TO			
Note: THE VENTRICULAR SYSTEM OF THE BRAIN MAY HAVE BEEN			
Clitoral Gland		Hyperplasia	Marked
		Inflammation	Chronic Active, Mild
Note: HYPERPLASIA TGLs = 3-10			
Eye		Cataract	Marked
	Retina	Degeneration	Marked
[ Cataract TGLS = 1-13 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Minimal
Note: HYPERPLASIA TGLs = 7-7.1+7.2			
Kidney	Transit Epithe	Hyperplasia	Minimal
	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
Lung	Alveolar Epith	Hyperplasia	Mild
		Infiltration Cellular	Histiocyte, Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

---

**ANIMAL ID:** 487

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 728

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863196

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ECTASIA	TGLs = 4-7.2			
Mammary Gland			Hyperplasia	Mild
Nose			Inflammation	Chronic Active, Minimal
Pancreas			Inflammation	Chronic Active, Minimal
Pituitary Gland		Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-8			
Salivary Glands		Duct, Submandibul GI	Hyperplasia	Minimal
		Duct, Submandibul GI	Metaplasia	Squamous, Minimal
Thyroid Gland		C Cell	Hyperplasia	Minimal
Uterus		Endometrium	Hyperplasia	Minimal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 488

TRT#: 9

SEX: Female

DAY ON TEST: 728

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863197

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	Urinary Bladder

INSUFFICIENT TISSUE

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Mild
	Cortex	Leukemia Mononuclear	
Clitoral Gland		Adenoma	
	Duct	Dilatation	Mild
		Inflammation	Chronic Active, Minimal
Note: [ ADENOMA ] TGLs = 7-10			
Note: THE CLITORAL GLAND WAS POORLY SECTIONED AND BROKEN.			
Note: DILATATION TGLs = 8-10			
Note: A RECUT WAS REQUESTED.			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
Note: HYPERPLASIA TGLs = 10-7.1+7.2			
Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
Liver		Angiectasis	Minimal
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
Note: HDN TGLs = 4-3.1			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Note: LEUKEMIA MONUC TGLs = 5-1+2			
Lymph Node	Mesenteric, Sinus	Ectasia	Moderate

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 488

TRT#: 9

SEX: Female

DAY ON TEST: 728

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863197

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Leukemia Mononuclear	
Note: ECTASIA TGLs = 3-7.2 [ Ectasia TGLS = 3-7.2+8 ]			
Mammary Gland		Hyperplasia	Mild
Pancreas		Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild
	Pars Distalis	Hyperplasia	Mild
Note: [ HYPERPLASIA ] TGLs = 6-8			
Spleen		Depletion Lymphoid	Mild
		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Dilatation	Mild
Uterus	Endometrium	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 489

TRT#: 9

SEX: Female

DAY ON TEST: 632

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863198

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Esophagus	Eye
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Nose	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thyroid Gland
Trachea			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Clitoral Gland		Hyperplasia	Mild
Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Hyperplasia	Glandular, Mild
	Cecum	Leukemia Mononuclear	
Note: HYPERPLASIA	TGLs = 10-7.1		
Note: LEUKEMIA MONUC	TGLs = 10-7.1		
Kidney		Leukemia Mononuclear	
	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4,8,9-3 ]			
Lung		Leukemia Mononuclear	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 489

TRT#: 9

SEX: Female

DAY ON TEST: 632

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863198

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: LEUKEMIA MONUC TGLs = 12-6

Note: LEUKEMIA MONUC TGLs = 2-9.1

[ Ectasia TGLS = 3-8.1 ]

[ Leukemia Mononuclear TGLS = 3-8.1 ]

Mammary Gland

Hyperplasia

Mild

Ovary

Leukemia Mononuclear

Pancreas

Acinus

Atrophy

Mild

Pituitary Gland

Pars Distalis

Cyst

Moderate

Pars Distalis

Hyperplasia

Mild

Pars Distalis

Leukemia Mononuclear

Note: CYST TGLs = 6-8

Spleen

Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 7-3.1

Stomach

Glandular, Mucosa

Dilatation

Minimal

Urinary Bladder

Leukemia Mononuclear

Uterus

Leukemia Mononuclear

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 490

TRT#: 9

SEX: Female

DAY ON TEST: 359

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863199

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Clitoral Gland	Esophagus	Eye	Heart
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Lung	Ovary
Pancreas	Parathyroid Gland	Pituitary Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Vacuolization Cytoplasmic	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Marked
	Cecum	Ulcer	Moderate

Note: HYPERPLASIA TGLs = 7-7+7.1+7.2

Note: EARLIER INJURY TO THE AREA AND A HEALING PROCESS.

Note: THE MUCOSA AND SUBMUCOSA OF THE CECUM WAS INFILTRATED

Note: BY LARGE NUMBERS OF MONUCLEAR AND FEWER POLYMORPHO-

Note: NUCLEAR LEUKOCYTES. IN FOCAL AREAS ONLY A SINGLE

Note: LAYER OF EPITHELIUM COVERED THE MUCOSA AND THERE

Note: WERE NO GLANDS IN THE SUBMUCOSA SUGGESTING AN

Note: INFLAMMATION TGLs = 5,6,7,8-7+7.1+7.2

Note: IN A RARE AREA GLANDS WERE NOTED BELOW THE LAMINA

Note: PROPRIA.

Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Mild
Liver		Clear Cell Focus	Minimal
	Bile Duct	Hyperplasia	Minimal
Lymph Node	Mandibular, Sinus	Ectasia	Minimal
	Mesenteric, Sinus	Ectasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 490

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 359

**DOSE:** 50,000 PPM FEM

**DISP:** Moribund

**HISTO:** 863199

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Mesenteric

Infiltration Cellular

Histiocyte, Minimal

Note: ECTASIA TGLs = 9-9

Note: ECTASIA TGLs = 10-7.2

Mammary Gland

Hyperplasia

Minimal

Nose

Inflammation

Chronic Active, Marked

Metaplasia

Squamous, Mild

Note: IN THE LUMEN OF THE NOSE.

Note: FUNGAL MYCELIA SURROUNDED BY NEUTROPHILS WERE NOTED

Stomach

Glandular, Mucosa

Dilatation

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 491

TRT#: 9

SEX: Female

DAY ON TEST: 661

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863202

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Eye	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lung	Nose	Ovary
Pancreas	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

MISSING

Parathyroid Gland

OBSERVATIONS

Clitoral Gland		Adenoma	
Note: [ ADENOMA ]	TGLs = 2-10.1		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
Note: HYPERPLASIA	TGLs = 10-7.1+7.2		
Note: INFLAMMATION	TGLs = 10-7.1+7.2		
Kidney	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Inflammation	Chronic Active, Mild
Note: HDN	TGLs = 7-3		
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA	TGLs = 6-7.2		
Mammary Gland		Fibroadenoma	Multiple
		Hyperplasia	Moderate
[ Hyperplasia TGLS = 3,4-13+14 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 491

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 661

**DOSE:** 50,000 PPM FEM

**DISP:** Moribund

**HISTO:** 863202

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA

TGLs = 8-8

Stomach

Glandular, Mucosa

Dilatation

Minimal

Thyroid Gland

C Cell

Hyperplasia

Minimal

Tongue

Squamous Cell Papilloma

[ Squamous Cell Papilloma TGLS = 5-15 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 492

TRT#: 9

SEX: Female

DAY ON TEST: 493

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863203

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Clitoral Gland	Esophagus	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lung
Nose	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Spleen	Trachea
Urinary Bladder	Vagina		

MISSING

Thymus

OBSERVATIONS

Heart		Cardiomyopathy	Minimal
Intestine Large	Colon	Edema	Minimal
	Rectum	Edema	Mild
	Cecum	Hyperplasia	Glandular, Minimal
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Cecum	Ulcer	Moderate
<p>Note: HYPERPLASIA TGLs = 7,10,19-7.1+7.2</p> <p>Note: ULCER TGLs = 7,10,19-7.1+7.2</p> <p>Note: EDEMA TGLs = 10-7+7.1+7.2</p> <p>Note: THE WALL OF ALL PORTIONS OF THE LARGE INTESTINE</p> <p>Note: APPEARS TO BE EDEMATOUS IN THAT THE SUBMUCOSA IS</p> <p>Note: INFLAMMATION TGLs = 7,10,19-7.1+7.2</p> <p>Note: COMMON OBSERVATION.</p> <p>Note: HYPERPLASIA OF THE GLANDS IN THE COLON IS A LESS</p> <p>Note: THICKENED IN THE COLON, CECUM, AND RECTUM.</p>			
Kidney		Nephropathy	Minimal
Liver		Angiectasis	Mild
		Basophilic Focus	Mild
		Fatty Change	Mild
		Inflammation	Chronic Active, Minimal

[ Angiectasis TGLS = 15-3 ]

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 492

TRT#: 9

SEX: Female

DAY ON TEST: 493

DOSE: 50,000 PPM FEM

DISP: Moribund

HISTO: 863203

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Basophilic Focus TGLS = 15-3 ] [ Fatty Change TGLS = 14,16-3 ] Lymph Node	Mesenteric, Sinus Mesenteric	Ectasia Infiltration Cellular	Marked Histiocyte, Minimal
Note: ECTASIA TGLs = 9-7.2 Mammary Gland Mesentery		Hyperplasia Inflammation	Mild Chronic Active, Mild
Note: INFLAMMATION TGLs = 5-7.3 Pituitary Gland	Pars Distalis	Cyst	Moderate
Note: CYST TGLs = 17-8 Stomach	Glandular, Mucosa Forestomach Forestomach	Dilatation Hyperkeratosis Hyperplasia	Minimal Mild Squamous, Mild
Note: HYPERKERATOSIS TGLs = 18-7.3 [ Hyperkeratosis TGLS = 18-7.3 ] Thyroid Gland	C Cell	Hyperplasia	Minimal
Uterus [ Polyp Stromal TGLS = 4-6 ]		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 493

TRT#: 9

SEX: Female

DAY ON TEST: 457

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853121

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Bone	Bone Marrow	Brain	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Mammary Gland	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder			

MISSING

Adrenal Gland - Cortex	Adrenal Gland - Medulla
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OBSERVATIONS

Clitoral Gland		Inflammation	Chronic, Minimal
Note: INFLAMMATION	TGLs = 8-10		
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Moderate
Note: INFLAMMATION	TGLs = 1-7.1		
Note: HYPERPLASIA	TGLs = 1-7.1		
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: PIGMENT	TGLs = 5-7		
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung	Alveolus	Mineralization	Minimal
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: ECTASIA	TGLs = 2-7.2		
Nose	Mucosa, Submucosa	Inflammation	Chronic Active, Minimal
Pituitary Gland	Pars Distalis	Cyst	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 493

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 457

**DOSE:** 50,000 PPM FEM

**DISP:** Interval Sacrifice

**HISTO:** 853121

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: CYST      TGLs = 4-8

Thyroid Gland

C Cell

Hyperplasia

Minimal

Uterus

Hydrometra

Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 494

TRT#: 9

SEX: Female

DAY ON TEST: 727

DOSE: 50,000 PPM FEM

DISP: Terminal Sacrifice

HISTO: 863201

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Spleen
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Angiectasis	Minimal
Clitoral Gland	Duct	Adenoma	Mild
		Dilatation	Chronic Active, Minimal
		Inflammation	
[ Dilatation TGLS = 3-10 ]			
Heart		Cardiomyopathy	Mild
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Colon	Hyperplasia	Glandular, Mild
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Marked
	Cecum	Parasite Metazoan	Minimal
	Cecum	Ulcer	Moderate
Note: HYPERPLASIA TGLs = 7-7.1+7.2			
Note: ULCER TGLs = 7-7.1+7.2			
[ Inflammation TGLS = 8-7 ]			
[ Parasite Metazoan TGLS = 7-7.2 ]			
Kidney		Nephropathy	Mild
Liver		Basophilic Focus	Minimal
		Inflammation	Chronic Active, Minimal
Lung		Alveolar/Bronchiolar Adenoma	
	Artery	Mineralization	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
Note: ECTASIA TGLs = 5-7.2			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

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**ANIMAL ID:** 494

**TRT#:** 9

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 50,000 PPM FEM

**DISP:** Terminal Sacrifice

**HISTO:** 863201

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Mammary Gland

[ Hyperplasia TGLS = 2-10+10.1 ]

Hyperplasia

Moderate

Nose

Inflammation

Chronic Active, Minimal

Pituitary Gland

Pars Distalis

Adenoma

Pars Distalis

Cyst

Mild

Thyroid Gland

C Cell

Hyperplasia

Minimal

Tissue NOS

Necrosis

Marked

Note: NECROSIS TGLs = 9-1

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05084-01

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Turmeric, oleoresin (curcumin)

CAS Number: 8024-37-1

Date Report Requested: 10/16/2014

Time Report Requested: 04:12:14

First Dose M/F: NA / NA

Lab: TSI MASON

ANIMAL ID: 495

TRT#: 9

SEX: Female

DAY ON TEST: 455

DOSE: 50,000 PPM FEM

DISP: Interval Sacrifice

HISTO: 853122

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Bone	Bone Marrow
Brain	Esophagus	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Liver	Lung	Nose
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

MISSING

Mammary Gland

OBSERVATIONS

Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Minimal
Intestine Large	Cecum	Hyperplasia	Glandular, Moderate
	Cecum, Lamina Propria, Submucosa	Inflammation	Chronic Active, Mild
	Colon, Epithelium	Pigmentation	Minimal
	Epithelium, Rectum	Pigmentation	Minimal
Note: PIGMENT	TGLs = 6-7.1+7.2		
Note: INFLAMMATION	TGLs = 10-7.1+7.2		
Note: HYPERPLASIA	TGLs = 10-7.1+7.2		
Intestine Small	Epithelium, Ileum	Pigmentation	Minimal
Note: PIGMENT	TGLs = 4-7		
Kidney	Renal Tubule	Mineralization	Minimal
		Nephropathy	Minimal
Lymph Node	Mesenteric, Sinus	Ectasia	Mild
	Mesenteric	Infiltration Cellular	Histiocyte, Minimal
	Mesenteric	Pigmentation	Minimal
Note: ECTASIA	TGLs = 5-7.2		
Pituitary Gland	Pars Distalis	Cyst	Minimal

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05084-01

**Test Type:** CHRONIC

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Turmeric, oleoresin (curcumin)

**CAS Number:** 8024-37-1

**Date Report Requested:** 10/16/2014

**Time Report Requested:** 04:12:14

**First Dose M/F:** NA / NA

**Lab:** TSI MASON

**\*\* END OF REPORT \*\***