

**Experiment Number:** 20403 - 01

**P05: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS  
ABRIDGED) (a)**

**Date Report Requested:** 08/06/2015

**Test Type:** CHRONIC

Zinc Carbonate, Basic

**Time Report Requested:** 13:00:00

**Route:** DOSED FEED

**CAS Number:** 5263-02-5

**First Dose M/F:** 09/03/09 / 09/04/09

**Species/Strain:** RATS/HSD

**Lab:** BAT

F1\_HSD

**NTP Study Number:** C20403  
**Lock Date:** 04/05/2013  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 3.0.2.2\_002  
**PWG Approval Date:** NONE

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
---------------------------------	-----------------	-----------------	------------	----------------	--------------

**Disposition Summary**

Animals Initially In Study	60	60	60	60	60
Scheduled Sacrifice	10	10	9	10	10
Early Deaths					
Moribund Sacrifice	11	12	10	15	7
Natural Death	19	7	13	14	22
Survivors					
Natural Death	2		1		1
Terminal Sacrifice	18	31	27	21	20
Animals Examined Microscopically	50	50	50	50	50

## ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)	(50)
Intestine Large, Cecum	(50)	(50)	(50)	(50)	(47)
Intestine Large, Colon	(49)	(50)	(49)	(50)	(48)
Intestine Large, Rectum	(50)	(50)	(50)	(50)	(48)
Adenocarcinoma			1 (2%)		
Intestine Small, Duodenum	(50)	(49)	(50)	(49)	(48)
Adenocarcinoma	1 (2%)				
Intestine Small, Ileum	(50)	(49)	(48)	(50)	(45)
Intestine Small, Jejunum	(50)	(49)	(50)	(50)	(47)
Adenocarcinoma	1 (2%)		1 (2%)	1 (2%)	3 (6%)
Schwannoma Malignant, Metastatic, Skin			1 (2%)		
Liver	(50)	(50)	(50)	(50)	(46)
Pheochromocytoma Malignant, Metastatic, Adrenal Medulla				1 (2%)	
Mesentery	(0)	(1)	(0)	(0)	(0)
Paraganglioma		1 (100%)			
Oral Mucosa	(1)	(0)	(2)	(1)	(1)
Squamous Cell Carcinoma				1 (100%)	
Pancreas	(49)	(50)	(48)	(48)	(48)
Schwannoma Malignant, Metastatic, Skin			1 (2%)		
Acinus, Adenoma	6 (12%)	8 (16%)	9 (19%)	5 (10%)	6 (13%)
Acinus, Adenoma, Multiple	5 (10%)	13 (26%)	10 (21%)	8 (17%)	4 (8%)

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
Acinus, Carcinoma	1 (2%)				
Salivary Glands	(49)	(50)	(50)	(50)	(49)
Stomach, Forestomach	(50)	(50)	(50)	(50)	(49)
Squamous Cell Carcinoma		2 (4%)			
Stomach, Glandular	(50)	(50)	(50)	(50)	(49)
Tongue	(0)	(0)	(0)	(0)	(1)
Tooth	(3)	(0)	(1)	(0)	(2)

## CARDIOVASCULAR SYSTEM

Blood Vessel	(50)	(50)	(50)	(50)	(50)
Schwannoma Malignant, Metastatic, Skin			1 (2%)		
Heart	(50)	(50)	(50)	(50)	(50)
Schwannoma Malignant, Metastatic, Skin			1 (2%)		
Endocardium, Schwannoma Malignant		1 (2%)	2 (4%)	1 (2%)	
Epicardium, Paraganglioma		1 (2%)			

## ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)	(50)
Adrenal Medulla	(50)	(50)	(50)	(50)	(50)
Pheochromocytoma Benign	5 (10%)	3 (6%)	8 (16%)	10 (20%)	3 (6%)
Pheochromocytoma Complex		1 (2%)			
Pheochromocytoma Malignant	1 (2%)			1 (2%)	3 (6%)
Bilateral, Pheochromocytoma Benign			2 (4%)		
Bilateral, Pheochromocytoma Malignant		1 (2%)	1 (2%)		
Islets, Pancreatic	(50)	(50)	(50)	(49)	(49)
Adenoma	2 (4%)	6 (12%)	2 (4%)	2 (4%)	2 (4%)
Carcinoma	1 (2%)		1 (2%)	1 (2%)	1 (2%)
Parathyroid Gland	(47)	(41)	(44)	(40)	(42)
Pituitary Gland	(50)	(50)	(50)	(50)	(49)
Schwannoma Malignant, Metastatic, Peripheral Nerve	1 (2%)				
Pars Distalis, Adenoma	2 (4%)	8 (16%)	4 (8%)	7 (14%)	6 (12%)
Pars Distalis, Carcinoma	1 (2%)				

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
Pars Intermedia, Adenoma			2 (4%)		
Pars Intermedia, Carcinoma	1 (2%)				
Thyroid Gland	(50)	(50)	(50)	(50)	(49)
Bilateral, C-cell, Adenoma			1 (2%)		
Bilateral, C-cell, Carcinoma	1 (2%)				
C-cell, Adenoma	2 (4%)	5 (10%)		2 (4%)	2 (4%)
C-cell, Carcinoma		2 (4%)	3 (6%)	2 (4%)	1 (2%)

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Epididymis	(50)	(50)	(50)	(50)	(50)
Penis	(0)	(0)	(1)	(0)	(0)
Preputial Gland	(50)	(50)	(50)	(50)	(50)
Carcinoma				1 (2%)	
Prostate	(50)	(50)	(50)	(50)	(50)
Seminal Vesicle	(50)	(50)	(50)	(50)	(50)
Testes	(50)	(50)	(50)	(50)	(50)
Interstitial Cell, Adenoma		2 (4%)			

## HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(50)	(50)	(50)	(50)
Lymph Node	(6)	(1)	(4)	(3)	(2)
Lymph Node, Mandibular	(49)	(50)	(50)	(50)	(48)
Lymph Node, Mesenteric	(50)	(50)	(49)	(50)	(49)
Schwannoma Malignant, Metastatic, Skin			1 (2%)		
Spleen	(50)	(50)	(49)	(48)	(45)
Thymus	(47)	(49)	(50)	(47)	(48)
Schwannoma Malignant, Metastatic, Skin			1 (2%)		

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
<b>INTEGUMENTARY SYSTEM</b>					
Mammary Gland	(50)	(49)	(50)	(48)	(49)
Fibroadenoma	3 (6%)	3 (6%)		1 (2%)	1 (2%)
Fibroma			2 (4%)	1 (2%)	1 (2%)
Schwannoma Malignant		1 (2%)	1 (2%)		
Skin	(50)	(50)	(50)	(50)	(50)
Basal Cell Adenoma				1 (2%)	
Basal Cell Carcinoma	1 (2%)		1 (2%)		1 (2%)
Keratoacanthoma	3 (6%)		2 (4%)		1 (2%)
Schwannoma Malignant			1 (2%)		
Schwannoma Malignant, Metastatic, Peripheral Nerve	1 (2%)				
Squamous Cell Carcinoma					1 (2%)
Trichoepithelioma	1 (2%)				
Head, Neural Crest Tumor	1 (2%)				
Sebaceous Gland, Adenoma			1 (2%)		
Subcutaneous Tissue, Carcinoma, Metastatic, Thyroid Gland			1 (2%)		
Subcutaneous Tissue, Fibroma	2 (4%)	4 (8%)	3 (6%)	1 (2%)	
Subcutaneous Tissue, Fibrosarcoma	1 (2%)	1 (2%)			
Subcutaneous Tissue, Fibrosarcoma, Multiple		1 (2%)			
Subcutaneous Tissue, Hemangioma	1 (2%)				
Subcutaneous Tissue, Hemangiosarcoma	1 (2%)				
Subcutaneous Tissue, Lipoma		2 (4%)		1 (2%)	1 (2%)
Subcutaneous Tissue, Schwannoma Malignant				1 (2%)	
Tail, Papilloma			1 (2%)		
<b>MUSCULOSKELETAL SYSTEM</b>					
Bone	(50)	(50)	(50)	(50)	(50)
Cranium, Schwannoma Malignant, Metastatic, Peripheral Nerve	1 (2%)				
Femur, Osteosarcoma					1 (2%)
Humerus, Osteosarcoma				1 (2%)	
Skeletal Muscle	(0)	(0)	(1)	(2)	(0)

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
Rhabdomyosarcoma				1 (50%)	
Schwannoma Malignant			1 (100%)	1 (50%)	
<b>NERVOUS SYSTEM</b>					
Brain	(48)	(50)	(50)	(50)	(50)
Granular Cell Tumor Malignant				1 (2%)	
Schwannoma Malignant, Metastatic, Peripheral Nerve	1 (2%)				
Cerebrum, Astrocytoma Malignant		1 (2%)			
Cerebrum, Meningioma Malignant				1 (2%)	
Cerebrum, Oligodendroglioma Malignant		1 (2%)		1 (2%)	
Peripheral Nerve	(1)	(1)	(1)	(1)	(0)
Schwannoma Malignant	1 (100%)				
Spinal Cord	(0)	(1)	(1)	(1)	(0)
<b>RESPIRATORY SYSTEM</b>					
Lung	(50)	(50)	(50)	(50)	(50)
Alveolar/Bronchiolar Adenoma		1 (2%)			
Carcinoma, Metastatic, Thyroid Gland			1 (2%)		
Cystic Keratinizing Epithelioma			1 (2%)		
Neuroblastoma, Metastatic, Nose			1 (2%)		
Osteosarcoma, Metastatic, Bone					1 (2%)
Schwannoma Malignant, Metastatic, Skin			1 (2%)		
Nose	(50)	(50)	(50)	(50)	(49)
Schwannoma Malignant, Metastatic, Peripheral Nerve	1 (2%)				
Olfactory Epithelium, Neuroblastoma			1 (2%)		
Trachea	(50)	(50)	(50)	(50)	(50)
<b>SPECIAL SENSES SYSTEM</b>					
Eye	(50)	(49)	(50)	(50)	(49)
Optic Nerve, Schwannoma Malignant				1 (2%)	

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS MALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
Harderian Gland	(50)	(49)	(50)	(50)	(49)
Schwannoma Malignant, Metastatic, Peripheral Nerve	1 (2%)				
Zymbal's Gland	(1)	(0)	(0)	(0)	(0)
Carcinoma	1 (100%)				
<b>URINARY SYSTEM</b>					
Kidney	(50)	(50)	(50)	(50)	(50)
Schwannoma Malignant, Metastatic, Skin			1 (2%)		
Renal Tubule, Adenoma				1 (2%)	1 (2%)
Urinary Bladder	(50)	(50)	(50)	(50)	(49)
<b>SYSTEMIC LESIONS</b>					
Multiple Organ	*(50)	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma	1 (2%)				
Leukemia Mononuclear	1 (2%)	2 (4%)		1 (2%)	1 (2%)
Lymphoma Malignant	1 (2%)	1 (2%)	1 (2%)	3 (6%)	
Mesothelioma Malignant	1 (2%)				

a - Number of animals examined microscopically at site and number of animals with lesion

\* Number of animals with any tissue examined microscopically

Experiment Number: 20403 - 01

**P05: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)**

Date Report Requested: 08/06/2015

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

---

Harlan Sprague Dawley RATS MALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
---------------------------------	-----------------	-----------------	------------	----------------	--------------

---

**Tumor Summary for Males**

Total Animals with Primary Neoplasms (b)	32	38	39	35	28
Total Primary Neoplasms	50	72	63	60	40
Total Animals with Benign Neoplasms	22	36	36	29	22
Total Benign Neoplasms	32	57	48	40	28
Total Animals with Malignant Neoplasms	16	15	14	17	12
Total Malignant Neoplasms	17	15	15	20	12
Total Animals with Metastatic Neoplasms	1		4	1	1
Total Metastatic Neoplasms	6		11	1	1
Total Animals with Malignant Neoplasms Uncertain Primary Site					
Total Animals with Neoplasms Uncertain- Benign or Malignant	1				
Total Uncertain Neoplasms	1				

---

\*\*\* END OF MALE \*\*\*

a - Number of animals examined microscopically at site and number of animals with lesion

b - Primary tumors: all tumors except metastatic tumors



Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
-----------------------------------	-----------------	-----------------	------------	----------------	--------------

**Disposition Summary**

Animals Initially In Study	60	60	60	60	60
Scheduled Sacrifice	9	10	9	9	9
Early Deaths					
Moribund Sacrifice	21	11	12	19	14
Natural Death	5	7	5	5	6
Survivors					
Terminal Sacrifice	25	32	34	27	31
Animals Examined Microscopically	50	50	50	50	50

## ALIMENTARY SYSTEM

Esophagus	(50)	(49)	(50)	(50)	(49)
Intestine Large, Cecum	(50)	(49)	(50)	(49)	(48)
Intestine Large, Colon	(50)	(49)	(50)	(50)	(49)
Intestine Large, Rectum	(50)	(50)	(50)	(50)	(49)
Intestine Small, Duodenum	(50)	(49)	(50)	(49)	(49)
Leiomyoma			1 (2%)	1 (2%)	
Intestine Small, Ileum	(50)	(49)	(50)	(49)	(49)
Intestine Small, Jejunum	(50)	(49)	(50)	(49)	(49)
Liver	(50)	(50)	(50)	(50)	(50)
Cholangioma	1 (2%)		1 (2%)		
Pancreas	(50)	(48)	(49)	(49)	(49)
Schwannoma Malignant					1 (2%)
Acinus, Adenoma	1 (2%)				
Salivary Glands	(50)	(49)	(50)	(48)	(49)
Stomach, Forestomach	(50)	(50)	(50)	(50)	(49)
Stomach, Glandular	(50)	(50)	(50)	(50)	(49)
Tooth	(1)	(1)	(0)	(6)	(0)

## CARDIOVASCULAR SYSTEM

Blood Vessel	(50)	(50)	(50)	(50)	(50)
Heart	(50)	(50)	(50)	(50)	(50)

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
Endocardium, Schwannoma Malignant			1 (2%)		
Myocardium, Schwannoma Malignant		1 (2%)			

## ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(50)	(50)	(50)
Carcinoma				1 (2%)	
Adrenal Medulla	(50)	(50)	(50)	(50)	(50)
Pheochromocytoma Benign			1 (2%)	2 (4%)	
Pheochromocytoma Malignant	1 (2%)				
Islets, Pancreatic	(50)	(50)	(50)	(49)	(49)
Adenoma				1 (2%)	
Parathyroid Gland	(42)	(43)	(41)	(42)	(43)
Pituitary Gland	(50)	(50)	(50)	(50)	(50)
Pars Distalis, Adenoma	11 (22%)	13 (26%)	9 (18%)	3 (6%)	8 (16%)
Pars Distalis, Carcinoma	1 (2%)		1 (2%)		
Thyroid Gland	(50)	(49)	(50)	(50)	(48)
Bilateral, C-cell, Adenoma				1 (2%)	
C-cell, Adenoma	1 (2%)	2 (4%)	1 (2%)		3 (6%)
C-cell, Carcinoma	1 (2%)			2 (4%)	

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Clitoral Gland	(49)	(50)	(50)	(49)	(50)
Ovary	(50)	(50)	(50)	(50)	(49)
Granulosa Cell Tumor Malignant					1 (2%)
Uterus	(50)	(50)	(49)	(50)	(50)
Adenocarcinoma	1 (2%)		1 (2%)		1 (2%)
Hemangioma				1 (2%)	
Leiomyoma	1 (2%)	1 (2%)			

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
Polyp Stromal	3 (6%)	2 (4%)	1 (2%)		2 (4%)
Schwannoma Malignant		1 (2%)			
Squamous Cell Carcinoma			1 (2%)		
Cervix, Schwannoma Malignant					1 (2%)

## HEMATOPOIETIC SYSTEM

Bone Marrow	(50)	(49)	(50)	(50)	(50)
Lymph Node	(1)	(0)	(0)	(0)	(1)
Pancreatic, Schwannoma Malignant					1 (100%)
Lymph Node, Mandibular	(50)	(49)	(49)	(48)	(48)
Lymph Node, Mesenteric	(50)	(49)	(50)	(50)	(49)
Hemangiosarcoma					1 (2%)
Spleen	(50)	(50)	(50)	(50)	(49)
Thymus	(48)	(50)	(48)	(49)	(49)
Thymoma Malignant					1 (2%)

## INTEGUMENTARY SYSTEM

Mammary Gland	(50)	(50)	(50)	(50)	(50)
Adenocarcinoma	4 (8%)	4 (8%)	4 (8%)	2 (4%)	4 (8%)
Adenocarcinoma, Multiple				2 (4%)	
Adenoma	3 (6%)	2 (4%)		3 (6%)	1 (2%)
Fibroadenoma	23 (46%)	20 (40%)	21 (42%)	22 (44%)	13 (26%)
Fibroadenoma, Multiple	6 (12%)	11 (22%)	12 (24%)	9 (18%)	14 (28%)
Fibrosarcoma				1 (2%)	
Schwannoma Malignant				1 (2%)	1 (2%)
Skin	(50)	(50)	(50)	(50)	(50)
Sebaceous Gland, Adenoma	1 (2%)				
Subcutaneous Tissue, Fibroma			1 (2%)		
Subcutaneous Tissue, Schwannoma Malignant		1 (2%)			

## MUSCULOSKELETAL SYSTEM

a - Number of animals examined microscopically at site and number of animals with lesion

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

Harlan Sprague Dawley RATS FEMALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
Bone Carcinoma, Metastatic, Zymbal'S Gland	(50)	(50)	(50)	(50) 1 (2%)	(50)
<b>NERVOUS SYSTEM</b>					
Brain Cerebrum, Oligodendroglioma Malignant	(50) 1 (2%)	(50)	(50)	(50)	(50)
Peripheral Nerve	(0)	(0)	(0)	(1)	(1)
Spinal Cord	(0)	(0)	(0)	(1)	(1)
<b>RESPIRATORY SYSTEM</b>					
Lung Adenocarcinoma, Metastatic, Mammary Gland	(50)	(50)	(50) 1 (2%)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus			1 (2%)		
Carcinoma, Metastatic, Adrenal Cortex				1 (2%)	
Carcinoma, Metastatic, Thyroid Gland	1 (2%)				
Cystic Keratinizing Epithelioma		1 (2%)			
Squamous Cell Carcinoma, Metastatic, Uterus			1 (2%)		
Nose Carcinoma, Metastatic, Zymbal'S Gland	(50)	(50)	(50)	(50) 1 (2%)	(50)
Trachea	(50)	(50)	(50)	(50)	(50)
<b>SPECIAL SENSES SYSTEM</b>					
Eye	(50)	(50)	(50)	(49)	(50)
Harderian Gland	(50)	(50)	(50)	(49)	(50)
Zymbal's Gland Carcinoma	(0)	(0)	(0)	(1) 1 (100%)	(0)
<b>URINARY SYSTEM</b>					
Kidney	(50)	(50)	(50)	(50)	(49)

a - Number of animals examined microscopically at site and number of animals with lesion

Experiment Number: 20403 - 01

**P05: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)**

Date Report Requested: 08/06/2015

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

---

Harlan Sprague Dawley RATS FEMALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
Urinary Bladder	(50)	(50)	(50)	(50)	(49)
<b>SYSTEMIC LESIONS</b>					
Multiple Organ	*(50)	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma	1 (2%)				1 (2%)
Leukemia Mononuclear	1 (2%)	1 (2%)			
Lymphoma Malignant		1 (2%)		1 (2%)	

---

a - Number of animals examined microscopically at site and number of animals with lesion

\* Number of animals with any tissue examined microscopically

Experiment Number: 20403 - 01

**P05: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a)**

Date Report Requested: 08/06/2015

Test Type: CHRONIC

Zinc Carbonate, Basic

Time Report Requested: 13:00:00

Route: DOSED FEED

CAS Number: 5263-02-5

First Dose M/F: 09/03/09 / 09/04/09

Species/Strain: RATS/HSD

Lab: BAT

---

Harlan Sprague Dawley RATS FEMALE	Control (38ppm)	3.5ppm SevZnDef	7ppm ZnDef	250ppmModZnExc	500ppm ZnExc
-----------------------------------	-----------------	-----------------	------------	----------------	--------------

---

**Tumor Summary for Females**

Total Animals with Primary Neoplasms (b)	40	41	42	40	39
Total Primary Neoplasms	62	61	56	54	54
Total Animals with Benign Neoplasms	35	39	39	34	32
Total Benign Neoplasms	51	52	48	43	41
Total Animals with Malignant Neoplasms	11	8	8	11	11
Total Malignant Neoplasms	11	9	8	11	13
Total Animals with Metastatic Neoplasms	1		3	2	
Total Metastatic Neoplasms	1		3	3	
Total Animals with Malignant Neoplasms Uncertain Primary Site					
Total Animals with Neoplasms Uncertain- Benign or Malignant					
Total Uncertain Neoplasms					

---

\*\*\* END OF REPORT \*\*\*

a - Number of animals examined microscopically at site and number of animals with lesion

b - Primary tumors: all tumors except metastatic tumors