

Experiment Number: 20403 - 01
Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic
CAS Number: 5263-02-5

Date Report Requested: 08/06/2015
Time Report Requested: 13:00:00
First Dose M/F: 09/03/09 / 09/04/09
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

Note: Animals arranged according to days on test.

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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE Control (38ppm)	DAY ON TEST																								males (cont...)
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	5	5	5	5	5	5	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	3	2	2	2	2	2	2	2	2	2	3	2	4	4	4	0	2	2	0	4	4	2	4	2	
	9	1	2	3	4	5	6	7	8	9	0	2	7	2	8	3	5	6	0	6	6	1	7	7	

ALIMENTARY SYSTEM

Esophagus	+																								
Intestine Large, Cecum	+																								
Intestine Large, Colon	+																								
Intestine Large, Rectum	+																								
Intestine Small, Duodenum Adenocarcinoma	+																								
Intestine Small, Ileum	+																								
Intestine Small, Jejunum Adenocarcinoma	+																								
Liver	+																								
Oral Mucosa																									
Pancreas Acinus, Adenoma Acinus, Adenoma, Multiple Acinus, Carcinoma	+																								
Salivary Glands	+																								
Stomach, Forestomach	+																								
Stomach, Glandular	+																								

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
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HARLAN SPRAGUE DAWLEY RATS MALE Control (38ppm)	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
		6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
		3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
		9	1	2	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7		

males
(cont...)

Tooth + +

CARDIOVASCULAR SYSTEM

Blood Vessel + + + + + + + + + + + + + + + +

Heart + + + + + + + + + + + + + + + +

ENDOCRINE SYSTEM

Adrenal Cortex + + + + + + + + + + + + + + + +

Adrenal Medulla + + + + + + + + + + + + + + + +
 Pheochromocytoma Benign
 Pheochromocytoma Malignant

Islets, Pancreatic + + + + + + + + + + + + + + + +
 Adenoma
 Carcinoma

Parathyroid Gland + + + + + + + + + + + + + + + +

Pituitary Gland + + + + + + + + + + + + + + + +
 Schwannoma Malignant, Metastatic, Peripheral Nerve
 Pars Distalis, Adenoma
 Pars Distalis, Carcinoma X
 Pars Intermedia, Carcinoma

Thyroid Gland + + + + + + + + + + + + + + + +
 Bilateral, C-cell, Carcinoma
 C-cell, Adenoma X

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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Lab: BAT

DAY ON TEST		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
HARLAN SPRAGUE DAWLEY RATS MALE	Control (38ppm)	1	3	3	3	3	3	3	3	3	3	3	3	4	4	5	5	5	5	5	5	5	6	6	6	
		8	7	7	7	7	7	7	7	7	7	7	7	8	9	1	3	3	4	5	5	8	0	1	1	3
		6	0	0	0	0	0	0	0	0	0	0	0	8	6	4	7	8	6	2	3	6	9	1	5	6
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		1	5	5	5	5	5	5	5	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	
		3	2	2	2	2	2	2	2	2	2	3	2	4	4	4	0	2	2	0	4	4	2	4	2	
		9	1	2	3	4	5	6	7	8	9	0	2	7	2	8	3	5	6	0	6	4	8	1	3	

males (cont...)

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis	+																								
Preputial Gland	+																								
Prostate	+																								
Seminal Vesicle	+																								
Testes	+																								

HEMATOPOIETIC SYSTEM

Bone Marrow	+																								
Lymph Node																									
Lymph Node, Mandibular	+																								
Lymph Node, Mesenteric	+																								
Spleen	+																								
Thymus	+																								

INTEGUMENTARY SYSTEM

Mammary Gland	+																								
---------------	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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DAY ON TEST	HARLAN SPRAGUE DAWLEY RATS MALE																				ANIMAL ID	males (cont...)		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0
1	3	3	3	3	3	3	3	3	3	3	3	4	4	5	5	5	5	5	5	6	6	6	6	6
8	7	7	7	7	7	7	7	7	7	7	8	9	1	3	3	4	5	5	8	0	1	1	3	3
6	0	0	0	0	0	0	0	0	0	0	8	6	4	7	8	6	2	3	6	9	1	5	6	8
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5	5	5	5	5	5	5	5	5	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	2	2	2	2	2	2	2	2	2	2	3	4	4	0	2	2	0	4	4	2	4	2	3	1
9	1	2	3	4	5	6	7	8	9	0	2	7	2	8	3	5	3	6	0	6	8	1	7	7

Fibroadenoma

X

Skin

+

+ + + + + + + + + + + + + + +

Basal Cell Carcinoma

Keratoacanthoma

Schwannoma Malignant, Metastatic, Peripheral Nerve

Trichoepithelioma

X

Head, Neural Crest Tumor

X

Subcutaneous Tissue, Fibroma

Subcutaneous Tissue, Fibrosarcoma

X

Subcutaneous Tissue, Hemangioma

Subcutaneous Tissue, Hemangiosarcoma

MUSCULOSKELETAL SYSTEM

Bone

+

+ + + + + + + + + + + + + + +

Cranium, Schwannoma Malignant, Metastatic, Peripheral Nerve

NERVOUS SYSTEM

Brain

+

+ + + + + + + A + + + + + + +

Schwannoma Malignant, Metastatic, Peripheral Nerve

Peripheral Nerve

Schwannoma Malignant

RESPIRATORY SYSTEM

Lung

+

+ + + + + + + + + + + + + + +

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Species/Strain: RATS/HSD

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|-------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | HARLAN SPRAGUE DAWLEY RATS MALE
Control (38ppm) | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 9 | 1 | 3 | 3 | 4 | 5 | 5 | 8 | 0 | 1 | 1 | 3 | 3 | 6 | 6 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 4 | 4 | 0 | 2 | 2 | 0 | 4 | 4 | 0 | 4 | 4 | 0 | 4 | 4 | 2 | 0 | 4 | 2 | 3 | 3 | 3 |
| | 9 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 2 | 7 | 2 | 8 | 3 | 5 | 3 | 5 | 2 | 6 | 6 | 9 | 6 | 8 | 1 | 5 | 6 | 6 | 6 | 6 | 8 |

males (cont...)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nose Schwannoma Malignant, Metastatic, Peripheral Nerve | + | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|---|---|
| Eye | + | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | |
| Harderian Gland Schwannoma Malignant, Metastatic, Peripheral Nerve | + | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | |
| Zymbal's Gland Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | X |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Urinary Bladder | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SYSTEMIC LESIONS

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Multiple Organ Histiocytic Sarcoma | + | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | | |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mesothelioma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males (cont...) |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|-----------|-----------------|
| | 0642 | 0662 | 0666 | 0666 | 0666 | 0667 | 0667 | 0668 | 0668 | 0669 | 0669 | 0670 | 0670 | 0671 | 0671 | 0672 | 0672 | 0673 | 0673 | 0674 | 0674 | 0675 | 0675 | | | |
| Control (38ppm) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 001132 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum Adenocarcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum Adenocarcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas Acinus, Adenoma | + | X | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X |
| Pancreas Acinus, Adenoma, Multiple | | | | | | X | | | | | | | | | | | X | | X | | | | |
| Pancreas Acinus, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|
| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | males
(cont...) |
| HARLAN SPRAGUE DAWLEY RATS | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| MALE | | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 0 | 0 | 0 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Control (38ppm) | | 2 | 2 | 6 | 4 | 4 | 3 | 8 | 3 | 4 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | | 3 | 1 | 1 | 0 | 0 | 4 | 4 | 4 | 4 | 2 | 4 | 1 | 0 | 1 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | |
| | | 2 | 1 | 0 | 4 | 9 | 3 | 4 | 4 | 9 | 7 | 5 | 7 | 2 | 2 | 5 | 1 | 4 | 3 | 4 | 8 | 9 | 0 | 6 | 9 | 0 | |

Tooth +

CARDIOVASCULAR SYSTEM

Blood Vessel +

Heart +

ENDOCRINE SYSTEM

Adrenal Cortex +

Adrenal Medulla +

Pheochromocytoma Benign X X X

Pheochromocytoma Malignant

Islets, Pancreatic +

Adenoma

Carcinoma X

Parathyroid Gland + + + M + + + + + + + + + + + M + + + + + + + +

Pituitary Gland +

Schwannoma Malignant, Metastatic, Peripheral Nerve X

Pars Distalis, Adenoma X X

Pars Distalis, Carcinoma

Pars Intermedia, Carcinoma X

Thyroid Gland + + + + + + + + + + + + + + + + + X + + + + + + + +

Bilateral, C-cell, Carcinoma X

C-cell, Adenoma

* .. Total animals with tissue examined microscopically; Total animals with tumor
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE
Control (38ppm) | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 0 | 0 | 0 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 2 | 2 | 6 | 4 | 4 | 3 | 8 | 3 | 4 | 1 | 1 | 3 | 1 | 1 | 1 | 9 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 3 | 1 | 1 | 0 | 0 | 4 | 4 | 4 | 3 | 4 | 2 | 4 | 1 | 0 | 1 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 2 | 1 | 0 | 4 | 9 | 3 | 4 | 4 | 9 | 7 | 5 | 7 | 2 | 2 | 5 | 1 | 4 | 3 | 4 | 8 | 9 | 0 | 6 | 2 | 6 | 2 | 9 | 3 | 0 | | | | | | | | |

males
(cont...)

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Lymph Node | | | | | | | | | | | | + | + | + | | | + | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | males (cont...) |
|-------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------|
| | 0642 | 0662 | 0666 | 0666 | 0667 | 0667 | 0668 | 0668 | 0669 | 0669 | 0670 | 0670 | 0671 | 0671 | 0672 | 0672 | 0673 | 0673 | 0674 | 0674 | 0675 | 0675 | 0676 | 0676 | |
| ANIMAL ID | 00132 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | 00011 | |

Fibroadenoma

X

X

Skin

+ +

Basal Cell Carcinoma

X

Keratoacanthoma

X

Schwannoma Malignant, Metastatic, Peripheral Nerve

X

Trichoepithelioma

Head, Neural Crest Tumor

Subcutaneous Tissue, Fibroma

X

Subcutaneous Tissue, Fibrosarcoma

Subcutaneous Tissue, Hemangioma

X

Subcutaneous Tissue, Hemangiosarcoma

MUSCULOSKELETAL SYSTEM

Bone

+ +

Cranium, Schwannoma Malignant, Metastatic, Peripheral Nerve

X

NERVOUS SYSTEM

Brain

+ + A +

Schwannoma Malignant, Metastatic, Peripheral Nerve

X

Peripheral Nerve

+

Schwannoma Malignant

X

RESPIRATORY SYSTEM

Lung

+ +

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE
Control (38ppm) | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 4 | 5 | 5 | 6 | 6 | 7 | 7 | 8 | 8 | 9 | 9 | 9 | 0 | 0 | 0 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | ANIMAL ID | 2 | 2 | 6 | 4 | 4 | 3 | 8 | 3 | 4 | 1 | 1 | 3 | 1 | 1 | 1 | 9 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 3 | 1 | 1 | 0 | 0 | 4 | 4 | 4 | 4 | 2 | 4 | 1 | 0 | 1 | 3 | 3 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | |
| | 2 | 1 | 0 | 4 | 9 | 3 | 4 | 4 | 9 | 7 | 5 | 7 | 2 | 2 | 5 | 1 | 4 | 3 | 4 | 8 | 9 | 0 | 6 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

males
(cont...)

Nose
Schwannoma Malignant, Metastatic, Peripheral
Nerve

+
X

Trachea

+ +

SPECIAL SENSES SYSTEM

Eye

+ +

Harderian Gland
Schwannoma Malignant, Metastatic, Peripheral
Nerve

+
X

Zymbal's Gland
Carcinoma

URINARY SYSTEM

Kidney

+ +

Urinary Bladder

+ +

SYSTEMIC LESIONS

Multiple Organ
Histiocytic Sarcoma
Leukemia Mononuclear
Lymphoma Malignant
Mesothelioma Malignant

+
X X

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
Control (38ppm) | DAY ON TEST | | | | | | | | | | ANIMAL ID |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|
| | 0
7
3
4 | 0
7
3
4 | 0
7
3
5 | 0
7
3
5 | 0
7
3
5 | 0
7
3
5 | 0
7
3
6 | 0
7
3
6 | 0
7
3
7 | 0
7
3
7 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0
0
1
3
3 |
| * TOTALS | | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum
Adenocarcinoma | + | + | + | + | + | + | + | + | + | + | 50
1 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum
Adenocarcinoma | + | + | + | + | + | + | + | + | + | + | 50
1 |
| Liver | + | + | + | + | + | + | + | + | + | + | 50 |
| Oral Mucosa | | | | | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 49 |
| Acinus, Adenoma | | X | X | | | | | | | | 6 |
| Acinus, Adenoma, Multiple | X | | | | | | | | X | | 5 |
| Acinus, Carcinoma | X | | | | | | | | | | 1 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 49 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Control (38ppm) | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 3 | 5 | 0 | 0 | 3 | 3 | 0 | 0 | 1 | 1 |
| | 3 | 0 | 1 | 5 | 6 | 8 | 7 | 8 | 5 | 6 |
| * TOTALS | | | | | | | | | | |

Tooth 3

CARDIOVASCULAR SYSTEM

Blood Vessel 50

Heart 50

ENDOCRINE SYSTEM

Adrenal Cortex 50

Adrenal Medulla 50

 Pheochromocytoma Benign 5

 Pheochromocytoma Malignant 1

Islets, Pancreatic 50

 Adenoma 2

 Carcinoma 1

Parathyroid Gland 47

Pituitary Gland 50

 Schwannoma Malignant, Metastatic, Peripheral Nerve 1

 Pars Distalis, Adenoma 2

 Pars Distalis, Carcinoma 1

 Pars Intermedia, Carcinoma 1

Thyroid Gland 50

 Bilateral, C-cell, Carcinoma 1

 C-cell, Adenoma 2

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

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P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|------------------------|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 7 | 7 |
| | Control (38ppm) | | | | | | | | | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 3 | 5 | 0 | 0 | 3 | 3 | 0 | 0 | 1 |
| | | 3 | 0 | 1 | 5 | 6 | 8 | 7 | 8 | 5 |
| * TOTALS | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | 50 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Prostate | + | + | + | + | + | + | + | + | + | + | 50 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | 50 |
| Testes | + | + | + | + | + | + | + | + | + | + | 50 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | 6 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 49 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 50 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 47 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | |
|--|---|---|---|---|---|---|---|---|---|---|-----------|-----------------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| HARLAN SPRAGUE DAWLEY RATS MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| Control (38ppm) | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | 3 | 5 | 0 | 0 | 3 | 3 | 0 | 0 | 1 | 1 | | |
| | 3 | 0 | 1 | 5 | 6 | 8 | 7 | 8 | 5 | 6 | | * TOTALS |

Fibroadenoma 3

Skin 50

Basal Cell Carcinoma 1

Keratoacanthoma 3

Schwannoma Malignant, Metastatic, Peripheral Nerve 1

Trichoepithelioma 1

Head, Neural Crest Tumor 1

Subcutaneous Tissue, Fibroma 2

Subcutaneous Tissue, Fibrosarcoma 1

Subcutaneous Tissue, Hemangioma 1

Subcutaneous Tissue, Hemangiosarcoma 1

MUSCULOSKELETAL SYSTEM

Bone 50

Cranium, Schwannoma Malignant, Metastatic, Peripheral Nerve 1

NERVOUS SYSTEM

Brain 48

Schwannoma Malignant, Metastatic, Peripheral Nerve 1

Peripheral Nerve 1

Schwannoma Malignant 1

RESPIRATORY SYSTEM

Lung 50

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | | |
|--|---|---|---|---|---|---|---|---|---|---|-----------|--|-----------------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| HARLAN SPRAGUE DAWLEY RATS MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Control (38ppm) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| | 3 | 5 | 0 | 0 | 3 | 3 | 0 | 0 | 1 | 1 | | | |
| | 3 | 0 | 1 | 5 | 6 | 8 | 7 | 8 | 5 | 6 | | | * TOTALS |
| Nose | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Schwannoma Malignant, Metastatic, Peripheral Nerve | | | | | | | | | | | | | 1 |
| Trachea | + | + | + | + | + | + | + | + | + | + | | | 50 |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Schwannoma Malignant, Metastatic, Peripheral Nerve | | | | | | | | | | | | | 1 |
| Zymbal's Gland | | | | | | | | | | | | | 1 |
| Carcinoma | | | | | | | | | | | | | 1 |
| URINARY SYSTEM | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | | | 50 |
| SYSTEMIC LESIONS | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Histiocytic Sarcoma | | | | | | | | | | | | | 1 |
| Leukemia Mononuclear | | | | | | | | | | | | | 1 |
| Lymphoma Malignant | | | | | | | | | | | | | 1 |
| Mesothelioma Malignant | | | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

| HARLAN SPRAGUE DAWLEY RATS
MALE | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) | | | | | | | | | | | | | | | |
|------------------------------------|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 3.5ppm SevZnDef | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| ANIMAL ID | | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| | | 03 | 05 | 05 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | | | |
| Intestine Large, Cecum | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | | |
| Intestine Large, Colon | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | |
| Intestine Large, Rectum | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | | |
| Intestine Small, Duodenum | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | | | | | |
| Intestine Small, Ileum | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | | | | | |
| Intestine Small, Jejunum | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | | | | | |
| Liver | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | |
| Mesentery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Paranglioma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Acinus, Adenoma | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| Acinus, Adenoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Stomach, Forestomach | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Squamous Cell Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + | | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
3.5ppm SevZnDef | DAY ON TEST | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | males
(cont...) | | | |
|---|-------------|---|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
| | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 0 | 0 | 3 | 5 | 4 | 4 | 6 | 7 | 8 | 8 | 9 | 0 | 0 | |
| | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 4 | 5 | 8 | 1 | 9 | 9 | 3 | 5 | 6 | 7 | 8 | 1 | 4 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 3 | 4 | 1 | 3 | 2 | 4 | 3 | 4 | 0 | 4 | 3 | |
| | 4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 6 | 2 | 9 | 2 | 8 | 1 | 8 | 7 | 5 | 7 | 4 | 2 | 3 | 9 | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + |
| Endocardium, Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | |
| Epicardium, Paraganglioma | | | | | | | | | | | | | | | | | | | | | | | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adrenal Medulla | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pheochromocytoma Benign | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pheochromocytoma Complex | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bilateral, Pheochromocytoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenoma | | | | | | | | | | | | | | | | | | | X | | | | | | |
| Parathyroid Gland | + | | | | | | | | | | | | + | + | + | M | + | + | + | + | M | + | + | + | + |
| Pituitary Gland | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pars Distalis, Adenoma | | | | | | | | | | | | | | | | | | | | | | X | | | |
| Thyroid Gland | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + |
| C-cell, Adenoma | | | | | | | | | | | | | | | | | | | | | | X | | | |
| C-cell, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males (cont...) | | | | | | | | | | | | | | | | | | | | |
|-------------------------|---------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|-----------------|----|----|---|---|---|---|---|---|---|---|---|---|---|--|---|--|---|--|---|--|
| | 02 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 04 | 05 | 05 | 05 | 05 | 05 | 06 | 06 | 06 | 06 | 06 | 06 | | | 07 | 07 | | | | | | | | | | | | | | | | | | |
| 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 6 | 0 | 0 | 3 | 5 | 4 | 4 | 6 | 7 | 8 | 8 | 9 | 0 | 0 | 0 | 3 | | | | | | | | | | | | | | | | | | | |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 4 | 5 | 8 | 1 | 9 | 9 | 3 | 5 | 6 | 7 | 8 | 1 | 4 | 0 | | 3 | | | | | | | | | | | | | | | | | | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 3 | | | | | | | | | | | | | | | | | |
| 4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 4 | 1 | 3 | 2 | 7 | 5 | 7 | 4 | 2 | 0 | 9 | | | | | | | | | | | | | | | | | | | | |
| Harderian Gland | | | | | | | | | | | | + | | | | | | | | | | | | + | | + | | + | | | + | | + | | + | | + | | M | | | | | | | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | | | | | | | | | | | | + | | | | | | | | | | | | + | | + | | + | | + | | + | | + | | + | | | | | | | | | | | |
| Urinary Bladder | | | | | | | | | | | | + | | | | | | | | | | | | + | | + | | + | | + | | + | | + | | + | | | | | | | | | | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | | | | | | | | | | | | + | | | | | | | | | | | | + | | + | | + | | + | | + | | + | | + | | | | | | | | | | | |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | | + | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
3.5ppm SevZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | males
(cont...) | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|--|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | |
| | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | |
| | 5 | 8 | 8 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | 5 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 4 | |
| | 0 | 2 | 1 | 9 | 1 | 5 | 7 | 8 | 5 | 6 | 8 | 3 | 5 | 6 | 7 | 9 | 0 | 3 | 4 | 5 | 6 | 2 | 3 | 0 | 4 | 0 | 4 | 0 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Mesentery
Paraganglioma | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas
Acinus, Adenoma | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Acinus, Adenoma, Multiple | X | | X | X | | X | X | | | | | X | X | | | | | | | X | X | | | | | X | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Stomach, Forestomach
Squamous Cell Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

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

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------------|
| | DAY ON TEST | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | |
| HARLAN SPRAGUE DAWLEY RATS MALE | | 05 | 08 | 08 | 01 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | |
| | 3.5ppm SevZnDef | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| | ANIMAL ID | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | males (cont...) |
| | | 04 | 01 | 02 | 00 | 00 | 00 | 00 | 02 | 02 | 02 | 03 | 03 | 04 | 04 | 04 | 05 | 01 | 01 | 01 | 02 | 00 | 00 | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Endocardium, Schwannoma Malignant | | | | | | | | | X | | | | | | | | | | | | | | |
| Epicardium, Paraganglioma | | | | X | | | | | | | | | | | | | | | | | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pheochromocytoma Benign | | | | | | | | | | X | | X | | | | X | | | | | | | |
| Pheochromocytoma Complex | | | | | | | | | | | | | | | | | | X | | | | | |
| Bilateral, Pheochromocytoma Malignant | | | | | | | | | X | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenoma | | | | | | X | | | | | | | X | | | | | X | | | | | |
| Parathyroid Gland | + | M | + | + | M | M | + | + | M | + | + | M | + | + | + | + | + | + | + | M | M | + | + |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pars Distalis, Adenoma | | | | | | | | | | | X | X | | | | X | X | | | | | | X |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| C-cell, Adenoma | | | X | | | X | | | | | | | | | | | | | | | | | |
| C-cell, Carcinoma | | | | | | | | | X | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
3.5ppm SevZnDef | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | |
|---|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|--------------------|--|
| | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000400 | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 000100 | |
| | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 000200 | |
| | 5 | 8 | 8 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 7 | 000300 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000400 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000500 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000600 | |
| | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 000700 | |
| | 0 | 2 | 1 | 9 | 1 | 5 | 7 | 8 | 5 | 6 | 8 | 3 | 5 | 6 | 7 | 9 | 0 | 3 | 4 | 5 | 6 | 0 | 3 | 4 | 0 | 000800 | |

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Interstitial Cell, Adenoma | | | | | | | | | | | | | | | X | | | | | | | | | X | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | + | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibroadenoma | | | | X | | | | | | | | | | | | | | X | | | | | | | |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HARLAN SPRAGUE DAWLEY RATS MALE
3.5ppm SevZnDef | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 0 | 0 | 0 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 5 | 8 | 8 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | | |
| | 0 | 2 | 1 | 9 | 1 | 5 | 7 | 8 | 5 | 6 | 8 | 3 | 5 | 6 | 7 | 9 | 0 | 3 | 4 | 5 | 6 | 0 | 3 | 4 | | | |

males (cont...)

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | X | | | | | | |
| Subcutaneous Tissue, Fibrosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Fibrosarcoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Lipoma | | | | X | | X | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cerebrum, Astrocytoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cerebrum, Oligodendroglioma Malignant | | | | X | | | | | | | | | | | | | | | | | | | | | |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Alveolar/Bronchiolar Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS MALE | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males (cont...) | | |
|-----------------|---------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----------------|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | 7 | 7 |
| 3.5ppm SevZnDef | 5 | 8 | 8 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | | |
| | 0 | 2 | 1 | 9 | 1 | 5 | 7 | 8 | 5 | 6 | 8 | 3 | 5 | 6 | 7 | 9 | 0 | 3 | 4 | 5 | 6 | 0 | 3 | 4 | 0 | 4 | | |

Harderian Gland

+ +

URINARY SYSTEM

Kidney

+ +

Urinary Bladder

+ +

SYSTEMIC LESIONS

Multiple Organ

+ +

Leukemia Mononuclear

Lymphoma Malignant

X

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
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Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS
MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 3.5ppm SevZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 |
| | 0 | 7 | 8 | 3 | 4 | 9 | 0 | 1 | 1 | 2 |
| * TOTALS | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 49 |
| Liver | + | + | + | + | + | + | + | + | + | + | 50 |
| Mesentery | + | | | | | | | | | | 1 |
| Paraganglioma | X | | | | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 50 |
| Acinus, Adenoma | | | | | | | | | | | 8 |
| Acinus, Adenoma, Multiple | X | | | | X | | | | X | | 13 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 50 |
| Squamous Cell Carcinoma | X | | | | | | | | | | 2 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

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Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|--|------------------------|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS
MALE | DAY ON TEST | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | 3.5ppm SevZnDef | | | | | | | | | | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | |
| | | 0 | 7 | 8 | 3 | 4 | 9 | 0 | 1 | 4 | |
| * TOTALS | | | | | | | | | | | |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | 50 |
| Endocardium, Schwannoma Malignant | | | | | | | | | | | 1 |
| Epicardium, Paraganglioma | | | | | | | | | | | 1 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 50 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 50 |
| Pheochromocytoma Benign | | | | | | | | | | | 3 |
| Pheochromocytoma Complex | | | | | | | | | | | 1 |
| Bilateral, Pheochromocytoma Malignant | | | | | | | | | | | 1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | X | | | X | | | | | | | 6 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | 41 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Adenoma | | | | | | X | X | | | | 8 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Adenoma | | | | | | | | | | | 5 |
| C-cell, Carcinoma | | | | | | | | | | | 2 |

GENERAL BODY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
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Experiment Number: 20403 - 01

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|-----------------|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE
3.5ppm SevZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | 0 | 7 | 8 | 3 | 4 | 9 | 0 | 1 | 1 | 2 |
| | | | | | | | | | | | * TOTALS | | | | | | | | | | |

GENITAL SYSTEM

| | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Epididymis | + | + | + | + | + | + | + | + | + | + | 50 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Prostate | + | + | + | + | + | + | + | + | + | + | 50 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | 50 |
| Testes | + | + | + | + | + | + | + | + | + | + | 50 |
| Interstitial Cell, Adenoma | | | | | | | | | | | 2 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | 1 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 50 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 49 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|----|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | 49 |
| Fibroadenoma | | | | | | | | | | | 3 |
| Schwannoma Malignant | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
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Experiment Number: 20403 - 01

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CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID |
|--|---|---|---|---|---|---|---|---|---|---|-----------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| HARLAN SPRAGUE DAWLEY RATS MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| 3.5ppm SevZnDef | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | |
| | 0 | 7 | 8 | 3 | 4 | 9 | 0 | 1 | 1 | 2 | |
| * TOTALS | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|-----------|
| Skin | + | + | + | + | + | + | + | + | + | + | 50 |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | 4 |
| Subcutaneous Tissue, Fibrosarcoma | | | | | | | | | | | 1 |
| Subcutaneous Tissue, Fibrosarcoma, Multiple | | | | | | | | | | | 1 |
| Subcutaneous Tissue, Lipoma | | | | | | | | | | | 2 |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone | + | + | + | + | + | + | + | + | + | + | 50 |
|------|---|---|---|---|---|---|---|---|---|---|-----------|

NERVOUS SYSTEM

| | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Brain | + | + | + | + | + | + | + | + | + | + | 50 |
| Cerebrum, Astrocytoma Malignant | | | | | | | | | | | 1 |
| Cerebrum, Oligodendroglioma Malignant | | | | | | | | | | | 1 |
| Peripheral Nerve | | | | | | | | | | | 1 |
| Spinal Cord | | | | | | | | | | | 1 |

RESPIRATORY SYSTEM

| | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Lung | + | + | + | + | + | + | + | + | + | + | 50 |
| Alveolar/Bronchiolar Adenoma | | | | | | X | | | | | 1 |
| Nose | + | + | + | + | + | + | + | + | + | + | 50 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 50 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|-----------|
| Eye | + | + | + | + | + | + | + | + | + | + | 49 |
|-----|---|---|---|---|---|---|---|---|---|---|-----------|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|--|-----------------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| HARLAN SPRAGUE DAWLEY RATS | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| MALE | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| 3.5ppm SevZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | | | |
| | 0 | 7 | 8 | 3 | 4 | 9 | 0 | 1 | 1 | 2 | | | * TOTALS |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | | | 49 |
| URINARY SYSTEM | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | | | 50 |
| SYSTEMIC LESIONS | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Leukemia Mononuclear | | | | | | | X | | | | | | 2 |
| Lymphoma Malignant | | | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| HARLAN SPRAGUE DAWLEY RATS
MALE | | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 3 | 9 | 0 | 0 | 6 | 7 | 8 | 9 | 2 | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| 7ppm ZnDef | | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 0 | 2 | 5 | 8 | 5 | 0 | 4 | 7 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 9 | 8 | 7 | 6 | 7 | 8 | 9 | 7 | 8 | 5 | 8 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | | 5 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 0 | 3 | 5 | 1 | 6 | 9 | 6 | 0 | 9 | 5 | 2 | 7 | 2 | 5 | 7 | 9 | 2 | 5 | 7 | 9 | 2 | 5 | 7 | 9 | 2 | 5 | | |

males
(cont...)

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Esophagus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Cecum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Colon | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Rectum
Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Jejunum
Adenocarcinoma
Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Liver | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas
Schwannoma Malignant, Metastatic, Skin
Acinus, Adenoma
Acinus, Adenoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

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Zinc Carbonate, Basic

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|---|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | | | | |
| | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 3 | 9 | 0 | 0 | 6 | 7 | 8 | 9 | 2 | 4 | 5 | 6 | 7 | 7 | 7 | |
| | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 0 | 2 | 5 | 8 | 5 | 0 | 4 | 7 | 1 | 9 | 0 | 0 | 0 | 6 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 9 | 8 | 7 | 6 | 7 | 8 | 9 | 7 | 8 | 5 | 8 | 6 | 6 | 9 | |
| | 5 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 0 | 3 | 5 | 1 | 6 | 0 | 9 | 6 | 0 | 9 | 5 | 2 | 5 | 7 | 7 | 2 | 2 | |

Stomach, Glandular

+ + + + + + + + + + + + + + + + + +

Tooth

+

CARDIOVASCULAR SYSTEM

Blood Vessel

Schwannoma Malignant, Metastatic, Skin

+ + + + + + + + + + + + + + + +
X

Heart

Schwannoma Malignant, Metastatic, Skin

Endocardium, Schwannoma Malignant

+ + + + + + + + + + + + + + + +
X X X

ENDOCRINE SYSTEM

Adrenal Cortex

+ + + + + + + + + + + + + + + +

Adrenal Medulla

Pheochromocytoma Benign

Bilateral, Pheochromocytoma Benign

Bilateral, Pheochromocytoma Malignant

+ + + + + + + + + + + + + + + +
X X

Islets, Pancreatic

Adenoma

Carcinoma

+ + + + + + + + + + + + + + + +
X

Parathyroid Gland

+ + + + + + + + + + + + + + + +

Pituitary Gland

Pars Distalis, Adenoma

Pars Intermedia, Adenoma

+ + + + + + + + + + + + + + + +
X X X

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
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First Dose M/F: 09/03/09 / 09/04/09

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 3 | 9 | 0 | 0 | 6 | 7 | 8 | 9 | 2 | 4 | 5 | 6 | 7 | 7 |
| | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 0 | 2 | 5 | 8 | 5 | 0 | 4 | 7 | 1 | 9 | 0 | 6 | 6 |
| MALE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7ppm ZnDef | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 9 | 8 | 7 | 6 | 7 | 8 | 9 | 9 | 7 | 8 | 5 | 8 | 6 |
| | 5 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 2 | 3 | 5 | 1 | 6 | 9 | 6 | 9 | 0 | 9 | 5 | 2 | 7 | 5 | 7 | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

males
(cont...)

Thyroid Gland
Bilateral, C-cell, Adenoma
C-cell, Carcinoma

+ + + + + + + + + + + + + + + + + +

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Epididymis | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Penis | | | | | | | | | | | | | | | | | | | | | | | | | | + |
| Preputial Gland | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prostate | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Seminal Vesicle | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testes | | | | | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Bone Marrow | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | | | | + |
| Lymph Node, Mandibular | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mesenteric | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 |
| | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 3 | 9 | 0 | 0 | 6 | 7 | 8 | 9 | 2 | 4 | 5 | 6 | 7 | 7 |
| | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 0 | 2 | 5 | 8 | 5 | 0 | 4 | 7 | 1 | 9 | 0 | 6 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 9 | 8 | 7 | 6 | 7 | 8 | 9 | 9 | 7 | 8 | 5 | 8 | 6 | 9 |
| | 5 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 0 | 3 | 5 | 1 | 6 | 0 | 9 | 6 | 0 | 9 | 5 | 2 | 5 | 7 | 2 | 2 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Spleen | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thymus | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Mammary Gland | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibroma | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Skin | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basal Cell Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Keratoacanthoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sebaceous Gland, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Carcinoma, Metastatic, Thyroid Gland | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tail, Papilloma | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Brain | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
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| HARLAN SPRAGUE DAWLEY RATS
MALE | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | | | | | |
|------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|---|---|--------------------|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | | | |
| | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 3 | 9 | 0 | 0 | 6 | 7 | 8 | 9 | 2 | 4 | 5 | 6 | 6 | 7 | 7 |
| 7ppm ZnDef | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 9 | 7 | 6 | 7 | 8 | 9 | 9 | 7 | 8 | 5 | 8 | 6 | 9 | 2 |
| | 5 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 0 | 3 | 5 | 1 | 6 | 0 | 9 | 6 | 0 | 9 | 5 | 2 | 5 | 7 | 7 | 9 | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) | | |

Peripheral Nerve

+

Spinal Cord

+

RESPIRATORY SYSTEM

Lung

Carcinoma, Metastatic, Thyroid Gland

Cystic Keratinizing Epithelioma

Neuroblastoma, Metastatic, Nose

Schwannoma Malignant, Metastatic, Skin

+ + + + + + + + + + + + + +

X

X

Nose

Olfactory Epithelium, Neuroblastoma

+ + + + + + + + + + + + + +

X

Trachea

+ + + + + + + + + + + + + +

SPECIAL SENSES SYSTEM

Eye

+ + + + + + + + + + + + + +

Harderian Gland

+ + + + + + + + + + + + + +

URINARY SYSTEM

Kidney

Schwannoma Malignant, Metastatic, Skin

+ + + + + + + + + + + + + +

X

Urinary Bladder

+ + + + + + + + + + + + + +

SYSTEMIC LESIONS

* .. Total animals with tissue examined microscopically; Total animals with tumor

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

M .. Missing tissue

A .. Autolysis precludes evaluation

BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------------|----------------------------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
7ppm ZnDef | DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | males
(cont...) | |
| | | | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | | 6 |
| | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 3 | 9 | 0 | 0 | 6 | 7 | 8 | 9 | 2 | 4 | 5 | 6 | | 7 |
| | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 9 | 0 | 2 | 5 | 8 | 5 | 0 | 4 | 7 | 1 | 9 | 0 | | 6 |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | males
(cont...) |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 9 | 8 | 7 | 6 | 7 | 8 | 9 | 9 | 7 | 8 | 5 | 8 | |
| | | 5 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 0 | 3 | 5 | 1 | 6 | 9 | 6 | 9 | 9 | 5 | 2 | 5 | 7 | 2 | |

Multiple Organ
Lymphoma Malignant

+ + + + + + + + + + + + + +

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | | 06 | 06 | 06 | 06 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 |
|--|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| HARLAN SPRAGUE DAWLEY RATS MALE | 7ppm ZnDef | 84 | 87 | 88 | 90 | 01 | 07 | 08 | 08 | 24 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 35 | |
| | | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| ANIMAL ID | | 077 | 079 | 076 | 078 | 075 | 079 | 076 | 075 | 073 | 074 | 075 | 075 | 075 | 078 | 073 | 074 | 075 | 071 | 072 | 073 | 074 | 074 | 071 | 070 |

males (cont...)

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum
Adenocarcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum
Adenocarcinoma
Schwannoma Malignant, Metastatic, Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas
Schwannoma Malignant, Metastatic, Skin
Acinus, Adenoma
Acinus, Adenoma, Multiple | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | X | X | | | | | X | | X | | X | | X | | X | | X | | X | | X |
| | | | | | | X | | | X | | X | | | | X | | X | | X | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
| | 0684 | 0687 | 0688 | 0690 | 0671 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 7 | 7 | 9 | 7 | 5 | 6 | 8 | 8 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 8 | 9 | 0 | 1 | 0 | 0 | 0 | |
| | 7 | 0 | 6 | 8 | 9 | 6 | 0 | 5 | 3 | 4 | 6 | 7 | 8 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 1 | 0 | 0 | 9 | |

Stomach, Glandular

+ +

Tooth

CARDIOVASCULAR SYSTEM

Blood Vessel

Schwannoma Malignant, Metastatic, Skin

+ +

Heart

Schwannoma Malignant, Metastatic, Skin

Endocardium, Schwannoma Malignant

+ +

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Adrenal Medulla

Pheochromocytoma Benign

Bilateral, Pheochromocytoma Benign

Bilateral, Pheochromocytoma Malignant

+ +

X

X

X

X

X

X

Islets, Pancreatic

Adenoma

Carcinoma

+ +

X

X

Parathyroid Gland

M + M M + + + + + + + + + + + + + + + + + + M + + +

Pituitary Gland

Pars Distalis, Adenoma

Pars Intermedia, Adenoma

+ +

X

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) | |
|---|-----------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|---|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | 7 |
| | | 8 | 8 | 8 | 8 | 9 | 0 | 0 | 0 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | 3 |
| HARLAN SPRAGUE DAWLEY RATS
MALE
7ppm ZnDef | | 4 | 7 | 8 | 0 | 1 | 7 | 8 | 8 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| | | 7 | 7 | 9 | 7 | 5 | 6 | 8 | 8 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 9 | 0 | 6 | 9 | |
| | | 7 | 0 | 6 | 8 | 9 | 6 | 0 | 5 | 3 | 4 | 6 | 7 | 8 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 4 | 4 | 1 | 0 | 6 | 9 | 3 |
| Thyroid Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Bilateral, C-cell, Adenoma | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | |
| C-cell, Carcinoma | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Penis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | + | + | | | | | | | | | | | | | | | + | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------------|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE | 7ppm ZnDef | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 8 | 8 | 8 | 9 | 0 | 0 | 0 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 4 | 7 | 8 | 0 | 1 | 7 | 8 | 8 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | |
| | | 7 | 7 | 9 | 7 | 5 | 6 | 8 | 8 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 8 | 9 | 0 | 6 | 9 | 3 | |
| | | 7 | 0 | 6 | 8 | 9 | 6 | 0 | 5 | 3 | 4 | 6 | 7 | 8 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 9 | 3 | |
| | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) | | |

Peripheral Nerve

Spinal Cord

RESPIRATORY SYSTEM

Lung

Carcinoma, Metastatic, Thyroid Gland

Cystic Keratinizing Epithelioma

Neuroblastoma, Metastatic, Nose

Schwannoma Malignant, Metastatic, Skin

+
 X

Nose

Olfactory Epithelium, Neuroblastoma

+ +

Trachea

+ +

SPECIAL SENSES SYSTEM

Eye

+ +

Harderian Gland

+ +

URINARY SYSTEM

Kidney

Schwannoma Malignant, Metastatic, Skin

+ +

Urinary Bladder

+ +

SYSTEMIC LESIONS

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-------------------|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7ppm ZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 9 | 9 | 9 | 5 | 5 | 6 | 6 | 8 | 8 | |
| | 4 | 7 | 8 | 1 | 2 | 1 | 2 | 8 | 8 | |
| * TOTALS | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|--|
| Esophagus | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum
Adenocarcinoma | + | + | + | + | + | + | + | + | + | 50
1 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Jejunum
Adenocarcinoma
Schwannoma Malignant, Metastatic, Skin | + | + | + | + | + | + | + | + | + | 50
1
1 |
| Liver | + | + | + | + | + | + | + | + | + | 50 |
| Oral Mucosa | + | | | | | | | | | 2 |
| Pancreas
Schwannoma Malignant, Metastatic, Skin
Acinus, Adenoma
Acinus, Adenoma, Multiple | + | + | + | + | + | + | + | + | + | 48
1
9
10 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
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CAS Number: 5263-02-5

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | * TOTALS |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------|
| | 0
7
3
5 | 0
7
3
5 | 0
7
3
5 | 0
7
3
6 | 0
7
3
6 | 0
7
3
7 | 0
7
3
7 | 0
7
3
7 | 0
7
3
7 | 0
7
3
7 | |
| ANIMAL ID | 0
0
0
9
4 | 0
0
0
9
7 | 0
0
0
9
8 | 0
0
0
5
1 | 0
0
0
5
2 | 0
0
0
6
1 | 0
0
0
6
2 | 0
0
0
6
8 | 0
0
0
8
8 | 0
0
0
8
9 | |
| | Stomach, Glandular | + | + | + | + | + | + | + | + | + | + |
| Tooth | | | | | | | | | | | 1 |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 50 |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | 1 |
| Heart | + | + | + | + | + | + | + | + | + | + | 50 |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | 1 |
| Endocardium, Schwannoma Malignant | | | | | | | | | | | 2 |
| ENDOCRINE SYSTEM | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 50 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 50 |
| Pheochromocytoma Benign | | | X | | | | X | | | | 8 |
| Bilateral, Pheochromocytoma Benign | | | | X | | | | | | | 2 |
| Bilateral, Pheochromocytoma Malignant | | | | | | | | | | | 1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenoma | | | | | | | | | | | 2 |
| Carcinoma | | | | | | | | | | | 1 |
| Parathyroid Gland | + | + | M | + | + | + | M | + | + | + | 44 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Adenoma | | | X | | | | | | | | 4 |
| Pars Intermedia, Adenoma | | | | | | | | | | | 2 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | ANIMAL ID |
|--|-------------|------|------|------|------|------|------|------|------|------|-----------------|
| | 0735 | 0735 | 0735 | 0736 | 0736 | 0737 | 0737 | 0737 | 0737 | 0737 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00094 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 00094 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 00094 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 00094 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00094 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00094 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00094 |
| | 9 | 9 | 9 | 5 | 5 | 6 | 6 | 6 | 8 | 8 | 00094 |
| | 4 | 7 | 8 | 1 | 2 | 1 | 2 | 8 | 8 | 9 | 00094 |
| | | | | | | | | | | | * TOTALS |

| | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Bilateral, C-cell, Adenoma | | | | | | | | | | | 1 |
| C-cell, Carcinoma | | | X | | | | | X | | | 3 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | 50 |
| Penis | | | | | | | | | | | 1 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Prostate | + | + | + | + | + | + | + | + | + | + | 50 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | 50 |
| Testes | + | + | + | + | + | + | + | + | + | + | 50 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | 4 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 49 |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | | |
|---|---|---|---|---|---|---|---|---|---|---|------------|--|-----------------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| HARLAN SPRAGUE DAWLEY RATS
MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0000000000 | | |
| | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | | | |
| 7ppm ZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0000000000 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 9 | 9 | 9 | 5 | 5 | 6 | 6 | 6 | 8 | 8 | | | |
| | 4 | 7 | 8 | 1 | 2 | 1 | 2 | 8 | 8 | 9 | | | * TOTALS |
| Spleen | + | + | + | + | + | + | + | + | + | + | | | 49 |
| Thymus | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | | | 1 |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Fibroma | | | | | | | | | | | | | 2 |
| Schwannoma Malignant | | | | | | | | | | | | | 1 |
| Skin | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Basal Cell Carcinoma | | X | | | | | | | | | | | 1 |
| Keratoacanthoma | | | | | X | | | | | | | | 2 |
| Schwannoma Malignant | | | | | | | | | | | | | 1 |
| Sebaceous Gland, Adenoma | | | | | | | | | | | | | 1 |
| Subcutaneous Tissue, Carcinoma, Metastatic, Thyroid Gland | | | | | | | | | X | | | | 1 |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | 3 |
| Tail, Papilloma | | | | | | | | | | | | | 1 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Skeletal Muscle | | | | | | | | | | | | | 1 |
| Schwannoma Malignant | | | | | | | | | | | | | 1 |
| NERVOUS SYSTEM | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | | | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | ANIMAL ID |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|
| | 0
7
3
5 | 0
7
3
5 | 0
7
3
5 | 0
7
3
6 | 0
7
3
6 | 0
7
3
7 | 0
7
3
7 | 0
7
3
7 | 0
7
3
7 | 0
7
3
7 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0
0
0
9
4 |
| * TOTALS | | | | | | | | | | | |

Peripheral Nerve 1

Spinal Cord 1

RESPIRATORY SYSTEM

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|----|
| Lung | + | + | + | + | + | + | + | + | + | + | 50 |
| Carcinoma, Metastatic, Thyroid Gland | | | X | | | | | | | | 1 |
| Cystic Keratinizing Epithelioma | | | | | | | | | | | 1 |
| Neuroblastoma, Metastatic, Nose | | | | | | | | | | | 1 |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | 1 |
| Nose | + | + | + | + | + | + | + | + | + | + | 50 |
| Olfactory Epithelium, Neuroblastoma | | | | | | | | | | | 1 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 50 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|----|
| Eye | + | + | + | + | + | + | + | + | + | + | 50 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | 50 |

URINARY SYSTEM

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|----|
| Kidney | + | + | + | + | + | + | + | + | + | + | 50 |
| Schwannoma Malignant, Metastatic, Skin | | | | | | | | | | | 1 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 50 |

SYSTEMIC LESIONS

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|-----------------------------------|-------------------|---|---|---|---|---|---|---|---|---|-----------|
| HARLAN SPRAGUE DAWLEY RATS | DAY ON TEST | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 7ppm ZnDef | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 9 | 9 | 9 | 5 | 5 | 6 | 6 | 8 | 8 | |
| | | 4 | 7 | 8 | 1 | 2 | 1 | 2 | 8 | 9 | |
| * TOTALS | | | | | | | | | | | |
| Multiple Organ | | + | + | + | + | + | + | + | + | + | 50 |
| Lymphoma Malignant | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Route: DOSED FEED

Species/Strain: RATS/HSD

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS MALE
250ppmModZnExc | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 6 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 7 | 7 | 5 | 5 | 7 | 8 | 6 | 5 | 6 | 5 |

males
(cont...)

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Esophagus | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Cecum | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Colon | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Rectum | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Jejunum | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Liver | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Pheochromocytoma Malignant, Metastatic, Adrenal Medulla | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | | |
| Squamous Cell Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acinus, Adenoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | + + | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
250ppmModZnExc | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|---|---|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | | | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 2 | 3 | 6 | 7 | 5 | 6 | 6 | 9 | 1 | 2 | 3 | 3 | 3 | 4 |
| | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 | 4 | 1 | 2 | 5 | 3 | 5 | 2 | 5 | 6 | 4 | 4 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 6 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 7 | 7 | 7 | 5 | 7 | 8 | 6 | 6 | 5 | 6 | 9 | 8 | 7 | |
| | 9 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 6 | 4 | 3 | 8 | 5 | 8 | 6 | 2 | 3 | 0 | 5 | 3 | 5 | |

Stomach, Glandular + + + + + + + + + + + + + + + +

CARDIOVASCULAR SYSTEM

Blood Vessel + + + + + + + + + + + + + + + +

Heart + + + + + + + + + + + + + + + +

Endocardium, Schwannoma Malignant

ENDOCRINE SYSTEM

Adrenal Cortex + + + + + + + + + + + + + + + +

Adrenal Medulla + + + + + + + + + + + + + + + +

Pheochromocytoma Benign X

Pheochromocytoma Malignant X

Islets, Pancreatic + + + + + + + + + + + + + + + +

Adenoma X

Carcinoma

Parathyroid Gland + M + + + + + + + + + + + + + + + +

Pituitary Gland + + + + + + + + + + + + + + + +

Pars Distalis, Adenoma X

Thyroid Gland + + + + + + + + + + + + + + + +

C-cell, Adenoma

C-cell, Carcinoma

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS MALE | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 2 | 3 | 6 | 7 | 5 | 6 | 6 | 9 | 1 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | 250ppmModZnExc | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 1 | 1 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | | 6 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 7 | 7 | 7 | 5 | 5 | 7 | 8 | 6 | 5 | 6 | 9 | 8 | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 9 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 6 | 4 | 3 | 8 | 5 | 8 | 6 | 2 | 3 | 0 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 3 | | |

males
(cont...)

Fibroma

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Skin | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basal Cell Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Lipoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Humerus, Osteosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rhabdomyosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Brain | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Granular Cell Tumor Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cerebrum, Meningioma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cerebrum, Oligodendroglioma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Peripheral Nerve

Spinal Cord

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Lung | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01
 Test Type: CHRONIC
 Route: DOSED FEED
 Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic
 CAS Number: 5263-02-5

Date Report Requested: 08/06/2015
 Time Report Requested: 13:00:00
 First Dose M/F: 09/03/09 / 09/04/09
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
250ppmModZnExc | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|---|---|---|--|--|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | | |
| | 3 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 2 | 3 | 6 | 7 | 5 | 6 | 6 | 9 | 1 | 2 | 3 | 3 | 4 | | |
| | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 | 4 | 1 | 2 | 5 | 3 | 5 | 2 | 5 | 6 | 4 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 1 | 1 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| | 6 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 7 | 7 | 7 | 5 | 7 | 8 | 6 | 5 | 6 | 9 | 8 | 7 | | | |
| | 9 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 6 | 4 | 3 | 8 | 5 | 8 | 6 | 2 | 3 | 0 | 5 | 3 | | | |
| Nose | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Trachea | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Optic Nerve, Schwannoma Malignant | X | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Harderian Gland | + | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Renal Tubule, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Urinary Bladder | + | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leukemia Mononuclear | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
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P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---------------------------------|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS MALE | 250ppmModZnExc | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 4 | 4 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 0 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| ANIMAL ID | | 5 | 8 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | | 6 | 5 | 5 | 9 | 9 | 5 | 7 | 8 | 9 | 6 | 5 | 0 | 5 | 9 | 5 | 6 | 7 | 8 | 8 | 8 | 8 | 6 | 6 | |
| | | 8 | 4 | 7 | 9 | 1 | 2 | 7 | 9 | 6 | 4 | 9 | 0 | 1 | 7 | 6 | 3 | 0 | 1 | 2 | 5 | 7 | 8 | 1 | |

males (cont...)

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum
Adenocarcinoma | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver
Pheochromocytoma Malignant, Metastatic,
Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + |
| Oral Mucosa
Squamous Cell Carcinoma | | | | + | X | | | | | | | | | | | | | | | | | | | |
| Pancreas
Acinus, Adenoma | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Acinus, Adenoma, Multiple | | X | | | | | | | | | | | X | | | | | | X | | | | X | X |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
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Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 4 | 4 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 0 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 5 | 8 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 6 | 5 | 5 | 9 | 9 | 5 | 7 | 8 | 9 | 6 | 5 | 0 | 5 | 9 | 5 | 6 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 5 | 6 | 6 | 7 |
| 8 | 4 | 7 | 9 | 1 | 2 | 7 | 9 | 6 | 4 | 9 | 0 | 1 | 7 | 6 | 3 | 0 | 1 | 2 | 5 | 7 | 8 | 7 | 8 | 5 | 6 | 1 | |

males
(cont...)

Stomach, Glandular

+ +

CARDIOVASCULAR SYSTEM

Blood Vessel

+ +

Heart

+ +

Endocardium, Schwannoma Malignant

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Adrenal Medulla

+ +

Pheochromocytoma Benign

Pheochromocytoma Malignant

X X

Islets, Pancreatic

+ + A +

Adenoma

Carcinoma

X X

Parathyroid Gland

+ + M M + + + + M + + + + M + M M + + + + + + + M M

Pituitary Gland

+ +

Pars Distalis, Adenoma

X X

Thyroid Gland

+ +

C-cell, Adenoma

C-cell, Carcinoma

X X

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE | 250ppmModZnExc | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 4 | 4 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 0 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 5 | 8 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | | 6 | 5 | 5 | 9 | 9 | 5 | 7 | 8 | 9 | 6 | 5 | 0 | 5 | 9 | 5 | 6 | 7 | 8 | 8 | 8 | 8 | 8 | 6 | 6 | 7 | 1 |
| | | 8 | 4 | 7 | 9 | 1 | 2 | 7 | 9 | 6 | 4 | 9 | 0 | 1 | 7 | 6 | 3 | 0 | 1 | 2 | 5 | 7 | 8 | 5 | 6 | 6 | 1 |

males
(cont...)

Fibroma

Skin

Basal Cell Adenoma

Subcutaneous Tissue, Fibroma

Subcutaneous Tissue, Lipoma

Subcutaneous Tissue, Schwannoma Malignant

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | X | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

Bone

Humerus, Osteosarcoma

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | X | | | | | | | | | | | | | | | |

Skeletal Muscle

Rhabdomyosarcoma

Schwannoma Malignant

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

Brain

Granular Cell Tumor Malignant

Cerebrum, Meningioma Malignant

Cerebrum, Oligodendroglioma Malignant

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | X | | | | | | | | | | | | | | | | | | X |

Peripheral Nerve

Spinal Cord

RESPIRATORY SYSTEM

Lung

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
250ppmModZnExc | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|
| | 0645 | 0648 | 0660 | 0667 | 0671 | 0677 | 0680 | 0688 | 0690 | 0693 | 0696 | 0700 | 0703 | 0707 | 0713 | 0717 | 0724 | 0733 | 0734 | 0744 | 0747 | 0755 | 0755 | |
| ANIMAL ID | 0018 | 0045 | 0057 | 0099 | 0101 | 0111 | 0117 | 0118 | 0119 | 0126 | 0134 | 0139 | 0140 | 0141 | 0149 | 0156 | 0163 | 0164 | 0174 | 0177 | 0185 | 0188 | 0196 | |

Nose +

Trachea +

SPECIAL SENSES SYSTEM

Eye +
Optic Nerve, Schwannoma Malignant

Harderian Gland +

URINARY SYSTEM

Kidney +
Renal Tubule, Adenoma

Urinary Bladder +

SYSTEMIC LESIONS

Multiple Organ +
Leukemia Mononuclear X
Lymphoma Malignant X X

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|--|-----------------------|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS
MALE | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 250ppmModZnExc | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| | 7 | 8 | 7 | 8 | 9 | 9 | 9 | 6 | 9 | | |
| | 2 | 4 | 9 | 0 | 3 | 4 | 8 | 7 | 0 | | |
| * TOTALS | | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|-----------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | | | | | | | | | | | 1 |
| Liver | + | + | + | + | + | + | + | + | + | + | 50 |
| Pheochromocytoma Malignant, Metastatic, Adrenal Medulla | | | | | | | | | | | 1 |
| Oral Mucosa | | | | | | | | | | | 1 |
| Squamous Cell Carcinoma | | | | | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 48 |
| Acinus, Adenoma | | | X | | | | | | | | 5 |
| Acinus, Adenoma, Multiple | | X | | X | X | X | | | | | 8 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
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Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | | |
|--|---|---|---|---|---|---|---|---|---|---|---------------------|-----------------|--|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| HARLAN SPRAGUE DAWLEY RATS
MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| 250ppmModZnExc | 7 | 8 | 7 | 8 | 9 | 9 | 9 | 6 | 9 | 9 | | | |
| | 2 | 4 | 9 | 0 | 3 | 4 | 8 | 7 | 0 | 2 | | | |
| | | | | | | | | | | | | * TOTALS | |
| Stomach, Glandular | | | | | | | | | | | + + + + + + + + + + | 50 | |
| CARDIOVASCULAR SYSTEM | | | | | | | | | | | | | |
| Blood Vessel | | | | | | | | | | | + + + + + + + + + + | 50 | |
| Heart | | | | | | | | | | | + + + + + + + + + + | 50 | |
| Endocardium, Schwannoma Malignant | | | | | | | | | | | X | 1 | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | |
| Adrenal Cortex | | | | | | | | | | | + + + + + + + + + + | 50 | |
| Adrenal Medulla | | | | | | | | | | | + + + + + + + + + + | 50 | |
| Pheochromocytoma Benign | | | | | | | | | | | X X | 10 | |
| Pheochromocytoma Malignant | | | | | | | | | | | X | 1 | |
| Islets, Pancreatic | | | | | | | | | | | + + + + + + + + + + | 49 | |
| Adenoma | | | | | | | | | | | X | 2 | |
| Carcinoma | | | | | | | | | | | | 1 | |
| Parathyroid Gland | | | | | | | | | | | + + + M + + + + + + | 40 | |
| Pituitary Gland | | | | | | | | | | | + + + + + + + + + + | 50 | |
| Pars Distalis, Adenoma | | | | | | | | | | | | 7 | |
| Thyroid Gland | | | | | | | | | | | + + + + + + + + + + | 50 | |
| C-cell, Adenoma | | | | | | | | | | | | 2 | |
| C-cell, Carcinoma | | | | | | | | | | | | 2 | |

GENERAL BODY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|-----------------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
250ppmModZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | | 7 | 8 | 7 | 8 | 9 | 9 | 9 | 9 | 9 | |
| | | 2 | 4 | 9 | 0 | 3 | 4 | 8 | 7 | 0 | |
| | | | | | | | | | | | * TOTALS |

NONE

GENITAL SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | 50 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Carcinoma | | | | | | | | X | | | 1 |
| Prostate | + | + | + | + | + | + | + | + | + | + | 50 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | 50 |
| Testes | + | + | + | + | + | + | + | + | + | + | 50 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | + | | 3 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 48 |
| Thymus | + | + | + | + | + | + | M | + | + | + | 47 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Mammary Gland | + | + | M | + | + | + | + | + | + | + | 48 |
| Fibroadenoma | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | | |
|---|---|---|---|---|---|---|---|---|---|---|-----------|---------------------|----|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| HARLAN SPRAGUE DAWLEY RATS MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | | | |
| 250ppmModZnExc | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| | 7 | 8 | 7 | 8 | 9 | 9 | 9 | 6 | 9 | 9 | | | |
| | 2 | 4 | 9 | 0 | 3 | 4 | 8 | 7 | 0 | 2 | | | |
| | | | | | | | | | | | | * TOTALS | |
| Fibroma | | | | | | | | | | | | X | 1 |
| Skin | | | | | | | | | | | | + + + + + + + + + + | 50 |
| Basal Cell Adenoma | | | | | | | | | | | | | 1 |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | X | 1 |
| Subcutaneous Tissue, Lipoma | | | | | | | | | | | | | 1 |
| Subcutaneous Tissue, Schwannoma Malignant | | | | | | | | | | | | | 1 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | | | |
| Bone | | | | | | | | | | | | + + + + + + + + + + | 50 |
| Humerus, Osteosarcoma | | | | | | | | | | | | | 1 |
| Skeletal Muscle | | | | | | | | | | | | | 2 |
| Rhabdomyosarcoma | | | | | | | | | | | | | 1 |
| Schwannoma Malignant | | | | | | | | | | | | | 1 |
| NERVOUS SYSTEM | | | | | | | | | | | | | |
| Brain | | | | | | | | | | | | + + + + + + + + + + | 50 |
| Granular Cell Tumor Malignant | | | | | | | | | | | | | 1 |
| Cerebrum, Meningioma Malignant | | | | | | | | | | | | | 1 |
| Cerebrum, Oligodendroglioma Malignant | | | | | | | | | | | | | 1 |
| Peripheral Nerve | | | | | | | | | | | | | 1 |
| Spinal Cord | | | | | | | | | | | | | 1 |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | |
| Lung | | | | | | | | | | | | + + + + + + + + + + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|--|---|---|---|---|---|---|---|---|---|---|-----------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| HARLAN SPRAGUE DAWLEY RATS
MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | |
| 250ppmModZnExc | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| ANIMAL ID | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 7 | 8 | 7 | 8 | 9 | 9 | 9 | 6 | 9 | 9 | |
| | 2 | 4 | 9 | 0 | 3 | 4 | 8 | 7 | 0 | 2 | |
| * TOTALS | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | 50 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 50 |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | 50 |
| Optic Nerve, Schwannoma Malignant | | | | | | | | | | | 1 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| URINARY SYSTEM | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | 50 |
| Renal Tubule, Adenoma | X | | | | | | | | | | 1 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 50 |
| SYSTEMIC LESIONS | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | 50 |
| Leukemia Mononuclear | | | | | | | | | | | 1 |
| Lymphoma Malignant | | | | | | | | | | | 3 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

| | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) | |
|---|-----------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|---|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | | 6 |
| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | | 5 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 1 | 1 | 2 | 4 | 9 | 9 | 9 | 9 | 2 | 3 | 4 | 4 | 4 | | |
| | | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 2 | 8 | 6 | 1 | 3 | 7 | 9 | 8 | 7 | 2 | 5 | 9 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| | 4 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 1 | 0 | 3 | 2 | 4 | 2 | 3 | 1 | 2 | 0 | 2 | 3 | 1 | | | |
| | 7 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 6 | 0 | 5 | 1 | 8 | 5 | 5 | 9 | 8 | 3 | 2 | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Esophagus | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Cecum | + A | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Colon | + A | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Large, Rectum | + A | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Duodenum | + A | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Ileum | + A | | | | | | | | | | | | | | | | | | | | | | | | |
| Intestine Small, Jejunum
Adenocarcinoma | + A | | | | | | | | | | | | | | | | | | | | | | | | |
| Liver | + A | | | | | | | | | | | | | | | | | | | | | | | | |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas
Acinus, Adenoma
Acinus, Adenoma, Multiple | + A | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + + | | | | | | | | | | | | | | | | | | | | | | | | |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | 5 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 1 | 1 | 2 | 4 | 9 | 9 | 9 | 9 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 7 | 2 | 2 | 5 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 4 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 0 | 3 | 2 | 2 | 4 | 2 | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 7 | 2 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 6 | 0 | 5 | 1 | 5 | 8 | 5 | 5 | 9 | 8 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

males
(cont...)

Tooth

CARDIOVASCULAR SYSTEM

Blood Vessel

+ + + + + + + + + + + + + + + + + +

Heart

+ + + + + + + + + + + + + + + + + +

ENDOCRINE SYSTEM

Adrenal Cortex

+ + + + + + + + + + + + + + + + + +

Adrenal Medulla

+ + + + + + + + + + + + + + + + + +

Pheochromocytoma Benign

Pheochromocytoma Malignant

Islets, Pancreatic

+ A + + + + + + + + + + + + + + + +

Adenoma

Carcinoma

Parathyroid Gland

M + + + + + + + + + + + + + + + +

Pituitary Gland

+ + + + + + + + + + A + + + + + +

Pars Distalis, Adenoma

X X

Thyroid Gland

+ + + + + + + + + + + + + + + +

C-cell, Adenoma

X

C-cell, Carcinoma

GENERAL BODY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Route: DOSED FEED

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | DAY ON TEST | | | | | | | | | | | | | ANIMAL ID | males
(cont...) | | | | | | | | | | | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|--------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | 0
3
5
5 | 0
3
6
2 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | 0
3
7
0 | | | 0
4
1
5 | 0
4
1
5 | 0
4
1
5 | 0
4
1
5 | 0
5
1
5 | 0
5
1
5 | 0
6
2
8 | 0
6
3
7 | 0
6
4
2 | 0
6
4
5 | 0
6
4
9 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 4 | 0 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 0 | 3 | 2 | 2 | 4 | 2 | 2 | 3 | 1 | 2 | 0 | 3 | 1 | |
| | 7 | 2 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 6 | 0 | 5 | 1 | 5 | 8 | 5 | 9 | 8 | 3 | 2 | |

Basal Cell Carcinoma
 Keratoacanthoma
 Squamous Cell Carcinoma
 Subcutaneous Tissue, Lipoma

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Bone | + | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Femur, Osteosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | | X |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Brain | + | + | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Lung | + | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Osteosarcoma, Metastatic, Bone | | | | | | | | | | | | | | | | | | | | | | | | | | X |
| Nose | + | A | | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | | | | | | | | | | | | | | | | | | | | | | | | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|--|
| Eye | + | + | | | | | | | | | | | | | | M | + | + | + | + | + | + | + | + | |
| Harderian Gland | + | + | | | | | | | | | | | | | | M | + | + | + | + | + | + | + | + | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Kidney | + | + | | | | | | | | | | | | | | | | | | | | | | | | |
| Renal Tubule, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | males
(cont...) | | |
|--|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|------|------|
| | | 0355 | 0362 | 0370 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | 0377 | | 0377 | 0377 |
| ANIMAL ID | | 0002 | 0004 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | |
| | | 0002 | 0004 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 | 0026 | |
| | | 4047 | 0041 | 4042 | 4043 | 4044 | 4045 | 4046 | 4047 | 4048 | 4049 | 5050 | 5051 | 5052 | 5053 | 5054 | 5055 | 5056 | 5057 | 5058 | 5059 | 5060 | 5061 | 5062 |
| | | 7072 | 7071 | 7072 | 7073 | 7074 | 7075 | 7076 | 7077 | 7078 | 7079 | 8080 | 8081 | 8082 | 8083 | 8084 | 8085 | 8086 | 8087 | 8088 | 8089 | 8090 | 8091 | 8092 |

Urinary Bladder

+ A + + + + + + + + + + + + +

SYSTEMIC LESIONS

Multiple Organ
Leukemia Mononuclear

+ + + + + + + + + + + + +

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HARLAN SPRAGUE DAWLEY RATS
MALE

500ppm ZnExc | DAY ON TEST | 0649 | 0660 | 0665 | 0669 | 0661 | 0674 | 0674 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 |
| | ANIMAL ID | 00227 | 00236 | 00236 | 00239 | 00234 | 00231 | 00234 | 00238 | 00231 | 00239 | 00241 | 00244 | 00246 | 00252 | 00257 | 00253 | 00257 | 00259 | 00263 | 00264 | 00267 | 00268 | 00273 |

males
(cont...)

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum
Adenocarcinoma | + | + | + | + | + | + | + | + | + | + | | X | X | X | | + | + | + | + | + | + | + | + | |
| Liver | + | + | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Oral Mucosa | | | | | | | | | | | | | + | | | | | | | | | | | |
| Pancreas
Acinus, Adenoma
Acinus, Adenoma, Multiple | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | | X | | X | | X | X | X | + |
| Salivary Glands | + | + | + | + | + | + | | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Tongue | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | males
(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|
| | 0649 | 0660 | 0665 | 0669 | 0681 | 0661 | 0674 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | |
| ANIMAL ID | 00227 | 0006 | 0006 | 0009 | 0004 | 0001 | 0004 | 0008 | 0001 | 0009 | 0004 | 0008 | 0001 | 0009 | 0004 | 0006 | 0002 | 0007 | 0003 | 0005 | 0007 | 0009 | 0003 | 0004 | |

Tooth

+

+

CARDIOVASCULAR SYSTEM

Blood Vessel

+ +

Heart

+ +

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Adrenal Medulla

+ +

Pheochromocytoma Benign

X

X

X

Pheochromocytoma Malignant

X

X

X

Islets, Pancreatic

+ +

Adenoma

X

Carcinoma

X

Parathyroid Gland

+ + + + M + + M M + + + + + + + + + + + + M M

Pituitary Gland

+ +

Pars Distalis, Adenoma

X

X

X

Thyroid Gland

+ + + + + + + M + + + + + + + + + + + + + +

C-cell, Adenoma

C-cell, Carcinoma

X

GENERAL BODY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|--------------------|
| HARLAN SPRAGUE DAWLEY RATS MALE | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | males
(cont...) |
| | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| 500ppm ZnExc | 4 | 6 | 6 | 6 | 8 | 9 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| | 9 | 0 | 5 | 9 | 1 | 1 | 4 | 4 | 7 | 7 | 5 | 5 | 7 | 8 | 9 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | |

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Prostate | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | | | | | | | | | | | | + | | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | A | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibroadenoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibroma | | | | | | | | | | | | | | | | | | | | | | | | X |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | DAY ON TEST | 0649 | 0660 | 0665 | 0669 | 0661 | 0674 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 |
| | ANIMAL ID | 00227 | 00066 | 00066 | 00009 | 00004 | 00001 | 00004 | 00008 | 00001 | 00009 | 00001 | 00004 | 00006 | 00002 | 00007 | 00003 | 00005 | 00007 | 00009 | 00003 | 00004 | 00007 | 00008 | 00003 | 00004 | 00007 |

males
(cont...)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Basal Cell Carcinoma | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Keratoacanthoma | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | |
| Squamous Cell Carcinoma | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Lipoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Femur, Osteosarcoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Osteosarcoma, Metastatic, Bone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Renal Tubule, Adenoma | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 4 | 6 | 6 | 6 | 8 | 9 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 9 | 0 | 5 | 9 | 1 | 1 | 4 | 4 | 7 | 7 | 5 | 5 | 7 | 8 | 9 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 2 | 3 | 2 | 3 | 2 | 3 | 0 | 3 | 4 | 4 | 0 | 4 | 4 | 3 | 3 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| | | 7 | 6 | 6 | 9 | 4 | 1 | 4 | 8 | 1 | 9 | 1 | 4 | 6 | 2 | 7 | 3 | 5 | 7 | 9 | 0 | 3 | 4 | 7 | 8 | 3 | 3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | males (cont...) | | | | | | | | | | | | | | | | | | | | | | | | | |

Urinary Bladder +

SYSTEMIC LESIONS

Multiple Organ +
 Leukemia Mononuclear

Experiment Number: 20403 - 01
 Test Type: CHRONIC
 Route: DOSED FEED
 Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic
 CAS Number: 5263-02-5

Date Report Requested: 08/06/2015
 Time Report Requested: 13:00:00
 First Dose M/F: 09/03/09 / 09/04/09
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | |
|--|-------------|---|---|---|---|---|---|---|---|---|-----------|-----------------|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | | 4 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | 7 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| | | 3 | 1 | 1 | 2 | 4 | 4 | 5 | 2 | 4 | | |
| | | 4 | 6 | 9 | 0 | 0 | 8 | 0 | 2 | 4 | | |
| | | | | | | | | | | | | * TOTALS |

ALIMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 47 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 45 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 47 |
| Adenocarcinoma | | | | | | | | | | | 3 |
| Liver | + | + | + | + | + | + | + | + | + | + | 46 |
| Oral Mucosa | | | | | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 48 |
| Acinus, Adenoma | | | | X | | | | | | | 6 |
| Acinus, Adenoma, Multiple | | X | | | X | X | | | | | 4 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 49 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 49 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 49 |
| Tongue | | | | | | | + | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

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

Lab: BAT

| | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
MALE
500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | | 4 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | 7 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 3 | 1 | 1 | 2 | 4 | 4 | 5 | 2 | 4 |
| | | 4 | 6 | 9 | 0 | 0 | 8 | 0 | 2 | 3 |
| * TOTALS | | | | | | | | | | |

Tooth 2

CARDIOVASCULAR SYSTEM

Blood Vessel 50

Heart 50

ENDOCRINE SYSTEM

Adrenal Cortex 50

Adrenal Medulla 50

 Pheochromocytoma Benign 3

 Pheochromocytoma Malignant 3

Islets, Pancreatic 49

 Adenoma 2

 Carcinoma 1

Parathyroid Gland 42

Pituitary Gland 49

 Pars Distalis, Adenoma 6

Thyroid Gland 49

 C-cell, Adenoma 2

 C-cell, Carcinoma 1

GENERAL BODY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

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CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

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Lab: BAT

| | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS
MALE

500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 4 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | 7 | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 3 | 1 | 1 | 2 | 4 | 4 | 5 | 2 | 4 | |
| | | 4 | 6 | 9 | 0 | 0 | 8 | 0 | 2 | 4 | |
| * TOTALS | | | | | | | | | | | |

GENITAL SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Epididymis | + | + | + | + | + | + | + | + | + | + | 50 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Prostate | + | + | + | + | + | + | + | + | + | + | 50 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | 50 |
| Testes | + | + | + | + | + | + | + | + | + | + | 50 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | + | | | | | 2 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 48 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 49 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 45 |
| Thymus | + | + | + | + | + | + | + | M | + | + | 48 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Mammary Gland | + | + | + | + | + | M | + | + | + | + | 49 |
| Fibroadenoma | | | | | | | | | | | 1 |
| Fibroma | | | | | | | | | | | 1 |
| Skin | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS MALE | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 500ppm ZnExc | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | 7 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 3 | 1 | 1 | 2 | 4 | 4 | 5 | 2 | 4 | 4 |
| | 4 | 6 | 9 | 0 | 0 | 8 | 0 | 2 | 2 | 3 |
| * TOTALS | | | | | | | | | | |

| | |
|-----------------------------|---|
| Basal Cell Carcinoma | 1 |
| Keratoacanthoma | 1 |
| Squamous Cell Carcinoma | 1 |
| Subcutaneous Tissue, Lipoma | 1 |
| X | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|----|
| Bone | + | + | + | + | + | + | + | + | + | 50 |
| Femur, Osteosarcoma | | | | | | | | | | 1 |

NERVOUS SYSTEM

| | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|----|
| Brain | + | + | + | + | + | + | + | + | + | 50 |
|-------|---|---|---|---|---|---|---|---|---|----|

RESPIRATORY SYSTEM

| | | | | | | | | | | |
|--------------------------------|---|---|---|---|---|---|---|---|---|----|
| Lung | + | + | + | + | + | + | + | + | + | 50 |
| Osteosarcoma, Metastatic, Bone | | | | | | | | | | 1 |
| Nose | + | + | + | + | + | + | + | + | + | 49 |
| Trachea | + | + | + | + | + | + | + | + | + | 50 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|----|
| Eye | + | + | + | + | + | + | + | + | + | 49 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | 49 |

URINARY SYSTEM

| | | | | | | | | | | |
|-----------------------|---|---|---|---|---|---|---|---|---|----|
| Kidney | + | + | + | + | + | + | + | + | + | 50 |
| Renal Tubule, Adenoma | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|-----------------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| HARLAN SPRAGUE DAWLEY RATS | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| MALE | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 7 | 7 | 7 | |
| 500ppm ZnExc | | | | | | | | | | | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 3 | 1 | 1 | 2 | 4 | 4 | 5 | 2 | 4 | 4 | |
| | 4 | 6 | 9 | 0 | 0 | 8 | 0 | 2 | 2 | 3 | |
| | | | | | | | | | | | * TOTALS |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 49 |
| SYSTEMIC LESIONS | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | 50 |
| Leukemia Mononuclear | X | | | | | | | | | | 1 |

*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
Control (38ppm) | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | ANIMAL ID | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 |
| | | 5 | 9 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 3 | 6 | 2 | 4 | 4 | 6 | 7 | 8 | 8 | 9 | 0 | 0 | 2 |
| | | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 3 | 0 | 9 | 8 | 5 | 2 | 4 | 3 | 1 | 9 | 1 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 3 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 6 | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 6 | 6 | 7 | 5 | 8 | 7 | 9 | 7 | 9 | 8 | 8 | 9 | |
| | | 0 | 2 | 9 | 1 | 3 | 4 | 5 | 6 | 7 | 8 | 5 | 3 | 7 | 4 | 0 | 2 | 8 | 9 | 6 | 6 | 1 | 6 | 0 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

females
(cont...)

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Liver
Cholangioma | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Pancreas
Acinus, Adenoma | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + |
| Tooth | | | | | | | | | | | | | | | | | | | | | | | | |

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females (cont...) | | |
|---|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-------------------|---|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 |
| Control (38ppm) | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | | |
| | 5 | 9 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 3 | 6 | 2 | 4 | 4 | 6 | 7 | 8 | 8 | 9 | 0 | 0 | 2 | | |
| | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 3 | 0 | 9 | 8 | 5 | 2 | 4 | 3 | 1 | 9 | 1 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 3 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | 6 | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 6 | 6 | 7 | 5 | 8 | 7 | 9 | 7 | 9 | 8 | 8 | 9 | 9 | | |
| | 0 | 2 | 9 | 1 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 5 | 3 | 7 | 4 | 0 | 2 | 8 | 9 | 6 | 6 | 1 | 0 | 0 | | |
| Blood Vessel | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Heart | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Adrenal Medulla
Pheochromocytoma Malignant | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Islets, Pancreatic | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Parathyroid Gland | + | | + | | | | | | | | | | + | + | M | + | + | M | + | + | M | + | + | + | + | + | |
| Pituitary Gland
Pars Distalis, Adenoma
Pars Distalis, Carcinoma | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Thyroid Gland
C-cell, Adenoma
C-cell, Carcinoma | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| GENERAL BODY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GENITAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | M | |
| Ovary | + | | + | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
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Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | | | | | | | | | | | | | | | | | | | | ANIMAL ID | |
|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------|--|
| | 2 3 3 3 3 3 3 3 3 3 3 3 4 4 5 5 5 5 5 5 6 6 6 | | | | | | | | | | | | | | | | | | | | | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 5 9 6 7 7 7 7 7 7 7 7 7 3 6 2 4 4 6 7 8 8 9 0 0 2 1 | | | | | | | | | | | | | | | | | | | | | |
| Control (38ppm) | 3 1 2 0 0 0 0 0 0 0 0 0 5 9 3 0 0 0 5 2 4 3 1 9 1 | | | | | | | | | | | | | | | | | | | | | |
| | 0 | | | | | | | | | | | | | | | | | | | | | |
| | 3 5 3 5 5 5 5 5 5 5 5 5 3 3 3 3 3 3 3 3 3 3 3 3 3 | | | | | | | | | | | | | | | | | | | | | |
| | 6 7 9 7 7 7 7 7 7 7 7 7 6 6 7 5 8 7 9 8 8 8 8 8 9 | | | | | | | | | | | | | | | | | | | | | |
| | 0 2 9 1 3 4 5 6 7 8 9 8 5 3 7 4 0 2 8 9 6 6 1 6 0 | | | | | | | | | | | | | | | | | | | | females (cont...) | |

| | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Uterus | + | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma | + | | | | | | | | | | | | | | | | | | | | |
| Leiomyoma | | | | | | | | | | | | | | | | | | | | | X |
| Polyp Stromal | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Bone Marrow | + | | | | | | | | | | | | | | | | | | | | |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mesenteric | + | | | | | | | | | | | | | | | | | | | | |
| Spleen | + | | | | | | | | | | | | | | | | | | | | |
| Thymus | + | | | | | | | | | | | | | | | | | | | | M |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Mammary Gland | + | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | X |
| Adenoma | | | | | | | | | | | | | | | | | | | | | X |
| Fibroadenoma | X | | | | | | | | | | | | | | | | | | | | X |
| Fibroadenoma, Multiple | | | | | | | | | | | | | | | | | | | | | X |
| Skin | + | | | | | | | | | | | | | | | | | | | | |
| Sebaceous Gland, Adenoma | + | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
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Experiment Number: 20403 - 01

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Lab: BAT

| DAY ON TEST | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | |
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
Control (38ppm) | 5 | 9 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 3 | 6 | 2 | 4 | 4 | 6 | 7 | 8 | 8 | 9 | 0 | 0 | |
| | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 3 | 0 | 9 | 8 | 5 | 2 | 4 | 3 | 1 | 9 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 6 | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 6 | 6 | 7 | 5 | 8 | 7 | 9 | 8 | 7 | 9 | 8 | 9 | |
| | 0 | 2 | 9 | 1 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 5 | 3 | 7 | 4 | 0 | 2 | 8 | 9 | 6 | 6 | 0 | | |
| Bone | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| NERVOUS SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| Cerebrum, Oligodendroglioma Malignant | | | | | | | | | | | | | | | | | | | | | | X | | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| Carcinoma, Metastatic, Thyroid Gland | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| Trachea | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| Harderian Gland | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| Urinary Bladder | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | |
| Histiocytic Sarcoma | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
Control (38ppm) | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|---|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ANIMAL ID | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 3 | 0 | 9 | 8 | 5 | 2 | 4 | 3 | 1 | 9 | 0 | 0 | 2 | 1 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | 5 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | 6 | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 6 | 7 | 5 | 8 | 7 | 9 | 7 | 9 | 7 | 9 | 8 | 8 | 8 | 8 | 8 | 9 | | |
| | 0 | 2 | 9 | 1 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 5 | 3 | 7 | 4 | 0 | 2 | 8 | 9 | 6 | 6 | 1 | 6 | 0 | 0 | 0 | 0 | | |
| | females (cont...) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Leukemia Mononuclear

X

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------------|
| HARLAN SPRAGUE DAWLEY RATS FEMALE
Control (38ppm) | DAY ON TEST | 0635 | 0656 | 0676 | 0677 | 0681 | 0690 | 0692 | 0694 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | 0695 | females (cont...) |
| | ANIMAL ID | 00373 | 00359 | 00352 | 00344 | 00311 | 00302 | 00309 | 00308 | 00302 | 00301 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | 00300 | |
| | | 03373 | 03359 | 03352 | 03344 | 03311 | 03302 | 03309 | 03308 | 03302 | 03301 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | 03300 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cholangioma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Acinus, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Tooth | | | | | | | | | | | | | | | | | | | | | | | | | |

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

| DAY ON TEST
HARLAN SPRAGUE DAWLEY RATS
FEMALE
Control (38ppm) | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---|----------------------|
| | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | 003375241006080295 | | |
| | Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| ENDOCRINE SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Adrenal Medulla
Pheochromocytoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Parathyroid Gland | + | + | M | + | + | + | + | M | + | + | M | + | + | + | + | M | + | + | + | + | + | + | + | + | + | |
| Pituitary Gland
Pars Distalis, Adenoma
Pars Distalis, Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Thyroid Gland
C-cell, Adenoma
C-cell, Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| GENERAL BODY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GENITAL SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01
 Test Type: CHRONIC
 Route: DOSED FEED
 Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic
 CAS Number: 5263-02-5

Date Report Requested: 08/06/2015
 Time Report Requested: 13:00:00
 First Dose M/F: 09/03/09 / 09/04/09
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
Control (38ppm) | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|---|-------------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|----------------------|
| | 0635 | 0635 | 0667 | 0667 | 0668 | 0669 | 0670 | 0672 | 0674 | 0675 | 0675 | 0675 | 0675 | 0675 | 0675 | 0675 | 0676 | 0676 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | | |
| | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 00373 | 00339 | 00352 | 0044 | 0051 | 0060 | 0062 | 0068 | 0068 | 0075 | 0078 | 0081 | 0082 | 0086 | 0089 | 0090 | 0091 | 0094 | 0095 | 0096 | 0096 | 0098 | 0098 | 0099 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | X | |
| Leiomyoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Polyp Stromal | | | | | X | X | | | | | | | | | | | | | | | | | | X |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node | | | | | | | | | | | | | | | | | | | | | | | + | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | X | |
| Fibroadenoma | X | | X | X | | X | | X | X | | X | | X | X | | X | X | | X | | X | | | X |
| Fibroadenoma, Multiple | | | | | | X | | | X | | | | | | | | | | | | | | X | |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Sebaceous Gland, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| | 0635 | 0663 | 0677 | 0677 | 0678 | 0689 | 0699 | 0700 | 0704 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0706 | 0706 | 0706 | 0706 | 0706 | 0706 | 0706 | 0706 | 0706 | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE Control (38ppm) | 00373 | 00033 | 00033 | 00033 | 00034 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | 00063 | |

Bone +

NERVOUS SYSTEM

Brain Cerebrum, Oligodendroglioma Malignant +

RESPIRATORY SYSTEM

Lung Carcinoma, Metastatic, Thyroid Gland + + + + + + + + + X + + + + + + + + + + + + + +

Nose +

Trachea +

SPECIAL SENSES SYSTEM

Eye +

Harderian Gland +

URINARY SYSTEM

Kidney +

Urinary Bladder +

SYSTEMIC LESIONS

Multiple Organ Histiocytic Sarcoma + X + + + +

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
Control (38ppm) | DAY ON TEST | 0635 | 0666 | 0677 | 0677 | 0688 | 0699 | 0700 | 0722 | 0744 | 0755 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 | 0777 |
| | ANIMAL ID | 00373 | 00355 | 00358 | 00335 | 00345 | 00368 | 00389 | 00405 | 00422 | 00431 | 00457 | 00466 | 00486 | 00507 | 00514 | 00534 | 00544 | 00564 | 00575 | 00588 | 00603 | 00615 |

females
(cont...)

Leukemia Mononuclear

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Control (38ppm) | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 5 | 5 | 5 | 5 | 8 | 8 | 9 | 9 | 9 | 9 |
| | 5 | 6 | 7 | 8 | 7 | 8 | 1 | 2 | 3 | 4 |
| * TOTALS | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 50 |
| Liver | + | + | + | + | + | + | + | + | + | + | 50 |
| Cholangioma | X | | | | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 50 |
| Acinus, Adenoma | | | | | | | X | | | | 1 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 50 |
| Tooth | | | | | + | | | | | | 1 |

CARDIOVASCULAR SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

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P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Control (38ppm) | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 5 | 5 | 5 | 5 | 8 | 8 | 9 | 9 | 9 | 9 |
| | 5 | 6 | 7 | 8 | 7 | 8 | 1 | 2 | 3 | 4 |

*** TOTALS**

| | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | 50 |

ENDOCRINE SYSTEM

| | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 50 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 50 |
| Pheochromocytoma Malignant | | | | | | | | | | | 1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | + | + | + | M | + | + | + | + | + | + | 42 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Adenoma | X | | | | | | | X | | X | 11 |
| Pars Distalis, Carcinoma | | | | | | | | | | | 1 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| C-cell, Adenoma | | X | | | | | | | | | 1 |
| C-cell, Carcinoma | | | | | | | | | | | 1 |

GENERAL BODY SYSTEM

| | | | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|--|--|
| NONE | | | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|--|--|

GENITAL SYSTEM

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | 49 |
| Ovary | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Control (38ppm) | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 5 | 5 | 5 | 5 | 8 | 8 | 9 | 9 | 9 | 9 |
| | 5 | 6 | 7 | 8 | 7 | 8 | 1 | 2 | 3 | 4 |

*** TOTALS**

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Uterus | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | | | | | | | | | | | 1 |
| Leiomyoma | | | | | | | | | | | 1 |
| Polyp Stromal | | | | | | | | | | | 3 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | 1 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 50 |
| Thymus | + | + | + | + | + | + | M | + | + | + | 48 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | | | | | | | | X | | | 4 |
| Adenoma | X | | | | X | | | | | | 3 |
| Fibroadenoma | | | | | X | | | X | X | | 23 |
| Fibroadenoma, Multiple | X | | X | | | | | | | | 6 |
| Skin | + | + | + | + | + | + | + | + | + | + | 50 |
| Sebaceous Gland, Adenoma | | | | | | | | X | | | 1 |

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | | |
|--|-----------------|---|---|---|---|---|---|---|---|---|-----------|--|-----------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| Control (38ppm) | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| | 5 | 5 | 5 | 5 | 8 | 8 | 9 | 9 | 9 | 9 | | | |
| | 5 | 6 | 7 | 8 | 7 | 8 | 1 | 2 | 3 | 4 | | | |
| | * TOTALS | | | | | | | | | | | | |
| Bone | + | + | + | + | + | + | + | + | + | + | | | 50 |
| NERVOUS SYSTEM | | | | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Cerebrum, Oligodendroglioma Malignant | | | | | | | | | | | | | 1 |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Carcinoma, Metastatic, Thyroid Gland | | | | | | | | | | | | | 1 |
| Nose | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Trachea | + | + | + | + | + | + | + | + | + | + | | | 50 |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | | | 50 |
| URINARY SYSTEM | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | | | 50 |
| SYSTEMIC LESIONS | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | | | 50 |
| Histiocytic Sarcoma | | | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|----------|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
Control (38ppm) | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | | 5 | 5 | 5 | 5 | 8 | 8 | 9 | 9 | 9 | | |
| | | 5 | 6 | 7 | 8 | 7 | 8 | 1 | 2 | 3 | | 4 |

Leukemia Mononuclear

1

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <p>HARLAN SPRAGUE DAWLEY RATS FEMALE
3.5ppm SevZnDef</p> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | 2 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 3 | 5 | 1 | 1 | 1 | 9 | 0 | 3 | 4 | 4 | 5 | 5 | 9 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 3 | 8 | 9 | 9 | 1 | 3 | 8 | 9 | 9 | 9 | 0 | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | |
| | 7 | 7 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 9 | 5 | 6 | 6 | 5 | 5 | 8 | 8 | 5 | 7 | 9 | 0 | 6 | | |
| | 1 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 6 | 5 | 1 | 7 | 7 | 2 | 3 | 8 | 8 | 7 | 3 | 0 | 8 | | |
| females (cont...) | | | | | | | | | | | | | | | | | | | | | | | | | | |

Myocardium, Schwannoma Malignant

X

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|--|--|--|--|--|
| Adrenal Cortex | + | + | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | + | | | | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | + | | | | | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | M | | | | | | | | | | | | | | | | | M | M | | | | | |
| Pituitary Gland
Pars Distalis, Adenoma | + | + | | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland
C-cell, Adenoma | + | + | | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Clitoral Gland | + | + | | | | | | | | | | | | | | | | | | | | | | | |
| Ovary | + | + | | | | | | | | | | | | | | | | | | | | | | | |
| Uterus
Leiomyoma
Polyp Stromal
Schwannoma Malignant | + | + | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
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 BLANK .. Not examined microscopically

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Time Report Requested: 13:00:00

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

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|------------------------|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS FEMALE | DAY ON TEST | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | 2 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 3 | 5 | 1 | 1 | 1 | 9 | 0 | 3 | 4 | 4 | 5 | 5 | 9 | 9 | 9 | 9 | 9 |
| | | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 9 | 3 | 8 | 9 | 9 | 1 | 3 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| | 3.5ppm SevZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 |
| | | 7 | 7 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 9 | 5 | 5 | 6 | 6 | 5 | 5 | 8 | 8 | 5 | 7 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 1 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 6 | 6 | 1 | 7 | 7 | 2 | 3 | 8 | 8 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | females (cont...) | | | | | | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | | | | | | | | | | | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mandibular | + | + | | | | | | | | | | | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | M | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma | | | | | | | | | | | | | | | | | | | | X | | | | | | | | |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | | | | X |
| Fibroadenoma | X | | | | | | | | | | | X | | | X | X | X | X | X | X | X | | | X | X | | | |
| Fibroadenoma, Multiple | | | | | | | | | | | | | | | X | | | | | | | | | | | | | X |
| Skin | + | + | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Subcutaneous Tissue, Schwannoma Malignant | | X | | | | | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|------|---|---|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-------|---|---|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

RESPIRATORY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Lab: BAT

| | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | |
|--|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------|--------|
| | | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
3 | 0
4 | 0
4 | 0
5 | 0
5 | 0
5 | 0
5 | 0
6 | 0
6 | 0
6 | 0
6 | 0
6 | | 0
6 |
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
3.5ppm SevZnDef | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | |
| | | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | 0
0 | | 0
0 |
| Lung | | 2
7 | 3
7 | 4
5 | 5
5 | 6
5 | 7
5 | 8
5 | 9
5 | 0
6 | 1
6 | 2
2 | 3
5 | 4
9 | 5
5 | 6
6 | 7
5 | 8
5 | 9
2 | 0
2 | 1
8 | 2
7 | 3
3 | 4
8 | 5
9 | 6
9 | 7
0 |
| Cystic Keratinizing Epithelioma | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Harderian Gland | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Urinary Bladder | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ
Leukemia Mononuclear
Lymphoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------|
| | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | |
| HARLAN SPRAGUE DAWLEY RATS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| FEMALE | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| 3.5ppm SevZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 6 | 9 | 8 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 9 | 9 | 9 | 5 | 7 | 7 | 8 | 8 | 8 | 9 | 2 | |
| | 6 | 5 | 2 | 3 | 4 | 5 | 9 | 0 | 5 | 6 | 8 | 1 | 2 | 4 | 9 | 3 | 4 | 4 | 5 | 6 | 7 | |
| | | | | | | | | | | | | | | | | | | | | | | females (cont...) |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Tooth | | | | | | | | | | | | | | | | | | | | | | + |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HARLAN SPRAGUE DAWLEY RATS FEMALE
3.5ppm SevZnDef | DAY ON TEST | 0700 | 0701 | 0704 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0706 | 0706 | 0706 | 0706 | 0706 | 0706 | 0706 | 0707 | 0707 | 0707 | 0707 | |
| | ANIMAL ID | 00266 | 00082 | 00063 | 00064 | 00065 | 00066 | 00069 | 00070 | 00075 | 00076 | 00077 | 00078 | 00081 | 00082 | 00084 | 00089 | 00093 | 00094 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | 00105 | 00106 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

females (cont...)

Myocardium, Schwannoma Malignant

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Parathyroid Gland | + | + | + | + | + | M | + | M | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + |
| Pituitary Gland
Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thyroid Gland
C-cell, Adenoma | | X | X | X | | | X | | | | | X | X | | | | | | | | | | | | X | |
| Thyroid Gland
C-cell, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leiomyoma | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| Polyp Stromal | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | X |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01
 Test Type: CHRONIC
 Route: DOSED FEED
 Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Zinc Carbonate, Basic
 CAS Number: 5263-02-5

Date Report Requested: 08/06/2015
 Time Report Requested: 13:00:00
 First Dose M/F: 09/03/09 / 09/04/09
 Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
3.5ppm SevZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 6 | 9 | 8 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 9 | 9 | 9 | 5 | 7 | 7 | 8 | 8 | 8 | 9 | 9 | 5 | 5 | 5 | 5 | 5 | |
| | 6 | 5 | 2 | 3 | 4 | 5 | 9 | 0 | 5 | 6 | 8 | 1 | 2 | 4 | 9 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

females
(cont...)

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma | | | | | | | X | | | | | | | | | | | | | | | | | | | |
| Adenoma | | | | | | | | | | | | | | X | | | | | | | | | | | | X |
| Fibroadenoma | | | X | | | X | | X | | | | | | | X | | | X | | | | | | | | |
| Fibroadenoma, Multiple | X | | X | | | | | | | | X | | | X | | | | | | X | | | | X | | X |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Subcutaneous Tissue, Schwannoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

RESPIRATORY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females (cont...) | | |
|--|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|-------------------|------|------|
| | 0700 | 0701 | 0704 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0706 | 0706 | 0706 | 0706 | 0706 | 0706 | 0707 | 0707 | | | 0707 | 0707 |
| 3.5ppm SevZnDef | 00066 | 0005 | 0002 | 0003 | 0004 | 0005 | 0009 | 0000 | 0005 | 0006 | 0008 | 0001 | 0002 | 0004 | 0009 | 0004 | 0003 | 0004 | 0004 | 0005 | 0006 | 0007 | 0008 | 0005 | 0006 | 0005 | | |
| Lung
Cystic Keratinizing Epithelioma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ
Leukemia Mononuclear
Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
3.5ppm SevZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|-------------|---|---|---|---|---|---|---|---|---|-----------|---|---|---|---|---|---|---|---|---|---|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | | | | | | | | | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 9 | 9 | | 9 | 9 | 9 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | | 9 | 0 | 2 | 7 | 8 | 9 | 0 | 9 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| * TOTALS | | | | | | | | | | | | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|----|
| Esophagus | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 49 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 49 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 49 |
| Liver | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 50 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 48 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 49 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 50 |
| Tooth | | | | | | | | | | | | | | | | | | | | | 1 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|----|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | | | | | | | | | | | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | |
|--|---|---|---|---|---|---|---|---|---|---|-----------|--|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| 3.5ppm SevZnDef | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| | 5 | 6 | 6 | 8 | 8 | 8 | 9 | 7 | 8 | 8 | | |
| | 9 | 0 | 2 | 7 | 8 | 9 | 0 | 9 | 0 | 1 | | |
| * TOTALS | | | | | | | | | | | | |

Myocardium, Schwannoma Malignant

1

ENDOCRINE SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 50 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 50 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | M | + | + | + | + | + | + | + | + | + | 43 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Adenoma | | | X | X | | | | X | X | | 13 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 49 |
| C-cell, Adenoma | | X | X | | | | | | | | 2 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|----|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Ovary | + | + | + | + | + | + | + | + | + | + | 50 |
| Uterus | + | + | + | + | + | + | + | + | + | + | 50 |
| Leiomyoma | | | | | | | | | | | 1 |
| Polyp Stromal | | | | | | | | | | | 2 |
| Schwannoma Malignant | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE | DAY ON TEST | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3.5ppm SevZnDef | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | ANIMAL ID | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 9 | 9 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 5 | 6 | 6 | 8 | 8 | 8 | 9 | 7 | 8 |
| | | 9 | 0 | 2 | 7 | 8 | 9 | 0 | 9 | 1 |
| * TOTALS | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 49 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 49 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 49 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 50 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 50 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|-----------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | | | | | | | | | | | 4 |
| Adenoma | | | | | | | | | | | 2 |
| Fibroadenoma | | X | | | | X | | | X | X | 20 |
| Fibroadenoma, Multiple | | | X | | | | | X | | | 11 |
| Skin | + | + | + | + | + | + | + | + | + | + | 50 |
| Subcutaneous Tissue, Schwannoma Malignant | | | | | | | | | | | 1 |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone | + | + | + | + | + | + | + | + | + | + | 50 |
|------|---|---|---|---|---|---|---|---|---|---|-----------|

NERVOUS SYSTEM

| | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|
| Brain | + | + | + | + | + | + | + | + | + | + | 50 |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|

RESPIRATORY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
3.5ppm SevZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|-----------|--|--|-----------------|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| | | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 9 | 9 | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| | | 5 | 6 | 6 | 8 | 8 | 8 | 9 | 7 | 8 | | | | |
| | | 9 | 0 | 2 | 7 | 8 | 9 | 0 | 9 | 1 | | | | |
| | | | | | | | | | | | | | | * TOTALS |
| Lung | | + | + | + | + | + | + | + | + | + | | | | 50 |
| Cystic Keratinizing Epithelioma | | | | | | | | | | | | | | 1 |
| Nose | | + | + | + | + | + | + | + | + | + | | | | 50 |
| Trachea | | + | + | + | + | + | + | + | + | + | | | | 50 |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | |
| Eye | | + | + | + | + | + | + | + | + | + | | | | 50 |
| Harderian Gland | | + | + | + | + | + | + | + | + | + | | | | 50 |
| URINARY SYSTEM | | | | | | | | | | | | | | |
| Kidney | | + | + | + | + | + | + | + | + | + | | | | 50 |
| Urinary Bladder | | + | + | + | + | + | + | + | + | + | | | | 50 |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | |
| Multiple Organ | | + | + | + | + | + | + | + | + | + | | | | 50 |
| Leukemia Mononuclear | | | | | | | | | | | | | | 1 |
| Lymphoma Malignant | | | | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Zinc Carbonate, Basic

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Lab: BAT

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females (cont...) | |
|-------------|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-------------------|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 |
| 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 0 | |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 6 | 8 | 7 | 8 | 1 | 3 | 4 | 4 | 6 | 7 | 7 | 0 | |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 5 | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 4 | 4 | 4 | 2 | 2 | 2 | 0 | 4 | 4 | 3 | 4 | 6 | |
| | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | 0 | 1 | 9 | 2 | 8 | 5 | 2 | 5 | 1 | 4 | 2 | 3 | 8 | |

Heart Endocardium, Schwannoma Malignant +

ENDOCRINE SYSTEM

Adrenal Cortex +

Adrenal Medulla Pheochromocytoma Benign +

Islets, Pancreatic +

Parathyroid Gland M + + + + + + M + + + + + + + + + + + + + + + +

Pituitary Gland Pars Distalis, Adenoma +

Pars Distalis, Carcinoma +

Thyroid Gland C-cell, Adenoma +

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland +

Ovary +

Uterus + + + + + A + + + + + + + + + + + + + + + +

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01
 Test Type: CHRONIC
 Route: DOSED FEED
 Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)
 Zinc Carbonate, Basic
 CAS Number: 5263-02-5

Date Report Requested: 08/06/2015
 Time Report Requested: 13:00:00
 First Dose M/F: 09/03/09 / 09/04/09
 Lab: BAT

| DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | |
| 0 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 6 | 8 | 7 | 8 | 1 | 3 | 4 | 4 | 6 | 7 | 7 | 9 | | |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 3 | 3 | 2 | 2 | 5 | 5 | 4 | 4 | 3 | 6 | 6 | 0 | | |
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
7ppm ZnDef | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 4 | 4 | 4 | 2 | 2 | 2 | 0 | 2 | 4 | 2 | 3 | 4 | |
| 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | 0 | 1 | 9 | 2 | 8 | 5 | 8 | 0 | 5 | 1 | 4 | 3 | 3 | 0 | | |

Adenocarcinoma
 Polyp Stromal
 Squamous Cell Carcinoma

X X

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone Marrow | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mesenteric | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spleen | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thymus | | | | | | | | | | | | | | | | | | | | | | | | | | | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Mammary Gland | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibroadenoma | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibroadenoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Skin | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

NERVOUS SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Route: DOSED FEED

Species/Strain: RATS/HSD

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|---|
| | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | 6 |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 0 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 6 | 8 | 7 | 8 | 1 | 3 | 4 | 4 | 6 | 7 | 7 | 7 | 9 | 9 | |
| 7ppm ZnDef | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 3 | 3 | 2 | 2 | 5 | 5 | 4 | 4 | 3 | 6 | 6 | 0 | 7 | | |
| ANIMAL ID | 0 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 4 | 4 | 4 | 2 | 2 | 0 | 2 | 4 | 4 | 2 | 3 | 3 | 4 | 4 | |
| | 8 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | 0 | 1 | 9 | 2 | 8 | 5 | 8 | 2 | 0 | 5 | 1 | 4 | 3 | 3 | 0 | 2 | |
| Brain | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Adenocarcinoma, Metastatic, Mammary Gland | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Squamous Cell Carcinoma, Metastatic, Uterus | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| Nose | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Trachea | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Harderian Gland | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Urinary Bladder | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | | | | | | | | | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
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BLANK .. Not examined microscopically

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| HARLAN SPRAGUE DAWLEY RATS
FEMALE
7ppm ZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | females
(cont...) |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|----------------------|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | |
| | 0 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 4 | 3 | 3 | 3 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 0 | 1 | 1 | 1 | 3 | |
| | 7 | 4 | 5 | 6 | 6 | 1 | 2 | 3 | 4 | 3 | 4 | 5 | 6 | 7 | 7 | 8 | 9 | 6 | 7 | 8 | 7 | 8 | 8 | 4 | 2 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum
Leiomyoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver
Cholangioma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------------|
| | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00347 | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0033345 | |
| | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0033334 | |
| | 0 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 0033334 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Endocardium, Schwannoma Malignant | | | | | | | | | | | | | | | X | | | | | | | | | | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Pheochromocytoma Benign | | | | | | | | | | | | | | | | | | | | | | | | | X |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Parathyroid Gland | + | + | + | + | + | M | M | + | + | + | M | M | + | + | + | + | + | + | + | + | + | + | M | + | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Pars Distalis, Adenoma | X | | | | | | | | | X | | | | X | | | | | | | | X | | | |
| Pars Distalis, Carcinoma | | | | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| C-cell, Adenoma | | | | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | |
|-------------|-----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------------|----|
| | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | | | 07 |
| 7ppm ZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000347 | |

Adenocarcinoma
Polyp Stromal
Squamous Cell Carcinoma

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone Marrow | + | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mesenteric | + | | | | | | | | | | | | | | | | | | | |
| Spleen | + | | | | | | | | | | | | | | | | | | | |
| Thymus | + | | | | | | | | | | | | | | | | | | | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|--|--|---|---|---|--|--|---|---|--|---|---|--|---|---|---|---|
| Mammary Gland | + | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma | X | | | | | | | | | | | | | | | | | | | | X |
| Fibroadenoma | | X | X | | | | X | X | X | | | | X | | X | X | | | X | X | X |
| Fibroadenoma, Multiple | | | | X | | | X | X | | | | X | | | | | | X | X | X | X |
| Skin | + | | | | | | | | | | | | | | | | | | | | |
| Subcutaneous Tissue, Fibroma | + | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | |
|------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone | + | | | | | | | | | | | | | | | | | | | |
|------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

NERVOUS SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | | | |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------------|----|--|--|
| | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | | | 07 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 000347 | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | | |
| RESPIRATORY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Adenocarcinoma, Metastatic, Mammary Gland | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Squamous Cell Carcinoma, Metastatic, Uterus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| URINARY SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |
| SYSTEMIC LESIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

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Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| FEMALE | 7 | 7 | 7 | 7 | 7 | 8 | 9 | 9 | 9 | 9 |
| 7ppm ZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 2 | 3 | 3 | 3 | 4 | 5 | 0 | 1 | 1 | 1 |
| | 9 | 0 | 1 | 2 | 3 | 0 | 9 | 0 | 1 | 2 |
| * TOTALS | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 50 |
| Leiomyoma | | | | | | | | | | | 1 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 50 |
| Liver | + | + | + | + | + | + | + | + | + | + | 50 |
| Cholangioma | | | | | | | | | | | 1 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 49 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 50 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 50 |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
7ppm ZnDef | DAY ON TEST | | | | | | | | | | * TOTALS |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------|
| | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | 0
7
2
7 | |
| ANIMAL ID | 0
0
3
2
9 | 0
0
3
3
0 | 0
0
3
3
1 | 0
0
3
3
2 | 0
0
3
4
3 | 0
0
3
5
0 | 0
0
3
0
9 | 0
0
3
1
0 | 0
0
3
1
1 | 0
0
3
1
2 | |
| Heart
Endocardium, Schwannoma Malignant | + | + | + | + | + | + | + | + | + | + | 50
1 |
| ENDOCRINE SYSTEM | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 50 |
| Adrenal Medulla
Pheochromocytoma Benign | + | + | + | + | + | + | + | + | + | + | 50
1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | + | + | + | M | + | M | + | + | + | + | 41 |
| Pituitary Gland
Pars Distalis, Adenoma
Pars Distalis, Carcinoma | + | + | + | + | + | + | + | + | + | X | 50
9
1 |
| Thyroid Gland
C-cell, Adenoma | + | + | + | + | + | + | + | + | + | + | 50
1 |
| GENERAL BODY SYSTEM | | | | | | | | | | | |
| NONE | | | | | | | | | | | |
| GENITAL SYSTEM | | | | | | | | | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Ovary | + | + | + | + | + | + | + | + | + | + | 50 |
| Uterus | + | + | + | + | + | + | + | + | + | + | 49 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
7ppm ZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS |
|--|-------------|---|---|---|---|---|---|---|---|---|----------|
| | ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 7 | 7 | 7 | 7 | 7 | 8 | 9 | 9 | 9 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | | 2 | 3 | 3 | 3 | 4 | 5 | 0 | 1 | 1 | |
| | | 9 | 0 | 1 | 2 | 3 | 0 | 9 | 0 | 1 | |
| Adenocarcinoma | | X | | | | | | | | | 1 |
| Polyp Stromal | | | | | | | | | | | 1 |
| Squamous Cell Carcinoma | | | | | | | | | | | 1 |
| HEMATOPOIETIC SYSTEM | | | | | | | | | | | |
| Bone Marrow | | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node, Mandibular | | + | + | + | + | + | + | + | + | + | 49 |
| Lymph Node, Mesenteric | | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | | + | + | + | + | + | + | + | + | + | 50 |
| Thymus | | + | + | + | + | + | + | + | + | + | 48 |
| INTEGUMENTARY SYSTEM | | | | | | | | | | | |
| Mammary Gland | | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | | | | | | | | | | | 4 |
| Fibroadenoma | | | | | X | X | | | X | | 21 |
| Fibroadenoma, Multiple | | | X | | | | | | | | 12 |
| Skin | | + | + | + | + | + | + | + | + | + | 50 |
| Subcutaneous Tissue, Fibroma | | | | | | | | | | | 1 |
| MUSCULOSKELETAL SYSTEM | | | | | | | | | | | |
| Bone | | + | + | + | + | + | + | + | + | + | 50 |
| NERVOUS SYSTEM | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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Experiment Number: 20403 - 01

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|---|-----------------|---|---|---|---|---|---|---|---|---|-----------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| HARLAN SPRAGUE DAWLEY RATS | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| FEMALE | 7 | 7 | 7 | 7 | 7 | 8 | 9 | 9 | 9 | 9 | |
| 7ppm ZnDef | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 2 | 3 | 3 | 3 | 4 | 5 | 0 | 1 | 1 | 1 | |
| | 9 | 0 | 1 | 2 | 3 | 0 | 9 | 0 | 1 | 2 | |
| | * TOTALS | | | | | | | | | | |
| Brain | + | + | + | + | + | + | + | + | + | + | 50 |
| RESPIRATORY SYSTEM | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma, Metastatic, Mammary Gland | | | | | | | | | | | 1 |
| Adenocarcinoma, Metastatic, Uterus | X | | | | | | | | | | 1 |
| Squamous Cell Carcinoma, Metastatic, Uterus | | | | | | | | | | | 1 |
| Nose | + | + | + | + | + | + | + | + | + | + | 50 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 50 |
| SPECIAL SENSES SYSTEM | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | 50 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| URINARY SYSTEM | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | 50 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 50 |
| SYSTEMIC LESIONS | | | | | | | | | | | |
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE | DAY ON TEST | 0071 | 0077 | 0078 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | 0070 | | |
| 250ppmModZnExc | ANIMAL ID | 00588 | 00444 | 00488 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 | 00055 |

Heart + + + + + + + + + + + + + + + + + +

ENDOCRINE SYSTEM

Adrenal Cortex Carcinoma + + + + + + + + + + + + + X

Adrenal Medulla Pheochromocytoma Benign + + + + + + + + + + + X

Islets, Pancreatic Adenoma + A + + + + + + + + + +

Parathyroid Gland + M + + + + M + M + + M + + +

Pituitary Gland Pars Distalis, Adenoma + + + + + + + + + + + + +

Thyroid Gland Bilateral, C-cell, Adenoma C-cell, Carcinoma + + + + + + + + + + X

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland M + + + + + + + + + + + + +

Ovary + + + + + + + + + + + + +

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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Species/Strain: RATS/HSD

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250ppmModZnExc | DAY ON TEST | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | females
(cont...) | |
|--|-------------|---|-----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 1 | 9 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | 8 | 2 | 4 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 2 | 3 | 3 | 3 | 0 | 3 | 5 | 0 | 3 |
| | 8 | 0 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 9 | 0 | 3 | 5 | 8 | 2 | 4 | 9 | 7 | 0 | 4 | 3 | 2 | 5 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Uterus | | | | | | | | | | | | | | | | | | | | | | | | |
| Hemangioma | + | + | | | | | | | | | | | | | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|
| Bone Marrow | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | + | | | | | | | | | | | | | | | | | | | | | | M |
| Lymph Node, Mesenteric | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Spleen | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Thymus | + | + | | | | | | | | | | | | | | | | | | | | | | |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Mammary Gland | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Adenocarcinoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | |
| Adenoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibroadenoma | X | | | | | | | | | | | | | | | | | | | | | | | |
| Fibroadenoma, Multiple | | | | | | | | | | | | | | | | | | | | | | | | |
| Fibrosarcoma | | | | | | | | | | | | | | | | | | | | | | | | |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | |
| Skin | + | + | | | | | | | | | | | | | | | | | | | | | | |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bone | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Carcinoma, Metastatic, Zymbal'S Gland | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue
M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS FEMALE
250ppmModZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 4 | 8 | 8 | 8 | 0 | 3 | 5 | 5 | 6 | 6 | 7 | 0 | 0 | 3 | 5 | 1 | 5 | 1 | 5 | 3 | 5 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | 8 | 2 | 4 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 2 | 3 | 3 | 0 | 3 | 5 | 0 | 3 | 1 | 0 | 0 | 3 | 0 | 3 | 5 | 1 | 0 | 3 | 0 | 3 | 8 |
| | 8 | 0 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 3 | 5 | 8 | 2 | 4 | 9 | 7 | 0 | 4 | 3 | 2 | 5 | 8 | | | | | | | | | |

females (cont...)

SYSTEMIC LESIONS

Multiple Organ
Lymphoma Malignant

+ +

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01
 Test Type: CHRONIC
 Route: DOSED FEED
 Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic
 CAS Number: 5263-02-5

Date Report Requested: 08/06/2015
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 First Dose M/F: 09/03/09 / 09/04/09
 Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250ppmModZnExc | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| ANIMAL ID | 5 | 5 | 5 | 5 | 8 | 9 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 4 | 6 | 9 | 9 | 7 | 2 | 1 | 7 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | 2 | 4 | 0 | 2 | 1 | 0 | 2 | 4 | 1 | 3 | 3 | 3 | 3 | 0 | 0 | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | |
| | 7 | 9 | 7 | 5 | 1 | 3 | 9 | 5 | 0 | 1 | 3 | 3 | 6 | 6 | 8 | 4 | 6 | 6 | 7 | 8 | 7 | 8 | 9 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum
Leiomyoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | X |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Tooth | | | | | | | | | | | | | | | | | | | | | | | + |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250ppmModZnExc | DAY ON TEST | | ANIMAL ID | | | | | | | | | | | | | | | | | | | | females
(cont...) | | |
|--|-------------|------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|------|--|
| | 0654 | 0656 | 0659 | 0659 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | | 0677 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | 2 | 4 | 0 | 2 | 1 | 0 | 2 | 4 | 1 | 3 | 3 | 3 | 3 | 0 | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 1 | 2 | |
| | 7 | 9 | 7 | 5 | 1 | 3 | 9 | 5 | 0 | 3 | 1 | 5 | 6 | 6 | 8 | 4 | 6 | 6 | 7 | 8 | 7 | 8 | 9 | 1 | |

Heart +

ENDOCRINE SYSTEM

Adrenal Cortex Carcinoma +

Adrenal Medulla Pheochromocytoma Benign + X

Islets, Pancreatic Adenoma + X

Parathyroid Gland + + + + + + + + + + + + M + + + + + M + + + + + + + +

Pituitary Gland Pars Distalis, Adenoma + + + + X +

Thyroid Gland Bilateral, C-cell, Adenoma C-cell, Carcinoma + + + + X + + + + + + + + + + + + + + + + + + + X

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland +

Ovary +

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250ppmModZnExc | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | 0654 | 0656 | 0659 | 0659 | 0687 | 0662 | 0671 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | 0677 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0047 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0044 | |
| | 2 | 4 | 0 | 2 | 1 | 0 | 2 | 4 | 1 | 3 | 3 | 3 | 3 | 0 | 0 | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 1 | 27 | |

Uterus Hemangioma +

HEMATOPOIETIC SYSTEM

Bone Marrow +

Lymph Node, Mandibular + + + + + M + + + + + + + + + + + + + + + + + +

Lymph Node, Mesenteric +

Spleen +

Thymus +

INTEGUMENTARY SYSTEM

Mammary Gland Adenocarcinoma +

Mammary Gland Adenocarcinoma, Multiple + + + + + X + + + + + + + + + + + + + + + + + +

Mammary Gland Adenoma +

Mammary Gland Fibroadenoma + + + + + X + + + + + X + + + + + X + + + + + X

Mammary Gland Fibroadenoma, Multiple X + + + + + X + + + + + X + + + + + X

Mammary Gland Fibrosarcoma +

Mammary Gland Schwannoma Malignant +

Skin +

MUSCULOSKELETAL SYSTEM

Bone Carcinoma, Metastatic, Zymbal'S Gland +

Bone Carcinoma, Metastatic, Zymbal'S Gland + + + + + X + + + + + + + + + + + + + + + + + +

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST
HARLAN SPRAGUE DAWLEY RATS
FEMALE
250ppmModZnExc | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| ANIMAL ID | 5 | 5 | 5 | 5 | 8 | 9 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 4 | 6 | 9 | 9 | 7 | 2 | 1 | 7 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | 2 | 4 | 0 | 2 | 1 | 0 | 2 | 4 | 1 | 3 | 3 | 3 | 3 | 0 | 0 | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 1 |
| | 7 | 9 | 7 | 5 | 1 | 3 | 9 | 5 | 0 | 0 | 1 | 5 | 6 | 6 | 8 | 4 | 6 | 6 | 7 | 8 | 7 | 8 | 9 | 1 |

females
(cont...)

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Carcinoma, Metastatic, Adrenal Cortex | | | | | | | | | | | | | | | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Carcinoma, Metastatic, Zymbal'S Gland | | X | | | | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | | | | |
| Carcinoma | | + | | | | | | | | | | | | | | | | | | | | | | |
| | | X | | | | | | | | | | | | | | | | | | | | | | |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

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

Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250ppmModZnExc | DAY ON TEST | 0664 | 0665 | 0669 | 0669 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | females
(cont...) |
| | ANIMAL ID | 00427 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | |
| | | 0664 | 0665 | 0669 | 0669 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | 0667 | |

SYSTEMIC LESIONS

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant | X | | | | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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Zinc Carbonate, Basic

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Time Report Requested: 13:00:00

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

Lab: BAT

| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------------------------|----------------|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE | DAY ON TEST | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 250ppmModZnExc | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 0 | 0 |
| | 2 | 3 | 4 | 9 | 0 | 2 | 3 | 4 | 1 | 2 |
| * TOTALS | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 49 |
| Leiomyoma | | | | | | | | | | | 1 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 49 |
| Liver | + | + | + | + | + | + | + | + | + | + | 50 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 49 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 48 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 50 |
| Tooth | | | | | | | | | | | 6 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 50 |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
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 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Zinc Carbonate, Basic

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 250ppmModZnExc | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 9 | 9 | 9 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 0 | 0 |
| | 2 | 3 | 4 | 9 | 0 | 2 | 3 | 4 | 1 | 2 |
| * TOTALS | | | | | | | | | | |

| | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|
| Heart | + | + | + | + | + | + | + | + | + | + | 50 |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|

ENDOCRINE SYSTEM

| | | | | | | | | | | | |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|-----------------------|
| Adrenal Cortex
Carcinoma | + | + | + | + | + | + | + | + | + | + | 50
1 |
|-----------------------------|---|---|---|---|---|---|---|---|---|---|-----------------------|

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|-----------------------|
| Adrenal Medulla
Pheochromocytoma Benign | + | + | + | + | + | + | + | + | + | + | 50
2 |
|--|---|---|---|---|---|---|---|---|---|---|-----------------------|

| | | | | | | | | | | | |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|-----------------------|
| Islets, Pancreatic
Adenoma | + | + | + | + | + | + | + | + | + | + | 49
1 |
|-------------------------------|---|---|---|---|---|---|---|---|---|---|-----------------------|

| | | | | | | | | | | | |
|-------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Parathyroid Gland | + | + | + | + | + | + | + | M | + | M | 42 |
|-------------------|---|---|---|---|---|---|---|---|---|---|-----------|

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|-----------------------|--|
| Pituitary Gland
Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | 50
3 | |
| | | | | | | | | X | | X | | |

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|-----------------------------------|
| Thyroid Gland
Bilateral, C-cell, Adenoma
C-cell, Carcinoma | + | + | + | + | + | + | + | + | + | + | 50
1
2 |
|--|---|---|---|---|---|---|---|---|---|---|-----------------------------------|

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | 49 |
|----------------|---|---|---|---|---|---|---|---|---|---|-----------|

| | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|
| Ovary | + | + | + | + | + | + | + | + | + | + | 50 |
|-------|---|---|---|---|---|---|---|---|---|---|-----------|

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | |
|--|---|---|---|---|---|---|---|---|---|---|-----------------|--|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| 250ppmModZnExc | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 9 | 9 | 9 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | |
| | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 0 | 0 | | |
| | 2 | 3 | 4 | 9 | 0 | 2 | 3 | 4 | 1 | 2 | | |
| | | | | | | | | | | | * TOTALS | |

| | | | | | | | | | | | |
|------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Uterus | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemangioma | | | | | | | | | | | 1 |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 48 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 50 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 50 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 49 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | |
|--------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | | | | | | | | | | | 2 |
| Adenocarcinoma, Multiple | | | | | | | | | | | 2 |
| Adenoma | | X | X | | | | | | | | 3 |
| Fibroadenoma | | X | | X | | X | X | | | | 22 |
| Fibroadenoma, Multiple | | | X | | X | | | X | | | 9 |
| Fibrosarcoma | | | | | | | | | | | 1 |
| Schwannoma Malignant | | | | | | | | | | | 1 |
| Skin | + | + | + | + | + | + | + | + | + | + | 50 |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone | + | + | + | + | + | + | + | + | + | + | 50 |
| Carcinoma, Metastatic, Zymbal'S Gland | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Lab: BAT

| | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|-----------------|-----------|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250ppmModZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 9 | 9 | | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 0 | 0 | |
| | | | | | | | | | | | | 2 | 3 | 4 | 9 | 0 | 2 | 3 | 4 | 1 | 2 |
| | | | | | | | | | | * TOTALS | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---|---|----|
| Brain | + | + | + | + | + | + | + | + | + | + | 50 |
| Peripheral Nerve | | | | | | | | | | | 1 |
| Spinal Cord | | | | | | | | | | | 1 |

RESPIRATORY SYSTEM

| | | | | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|----|
| Lung | + | + | + | + | + | + | + | + | + | + | 50 |
| Carcinoma, Metastatic, Adrenal Cortex | | | | | | | | | | | 1 |
| Nose | + | + | + | + | + | + | + | + | + | + | 50 |
| Carcinoma, Metastatic, Zymbal'S Gland | | | | | | | | | | | 1 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 50 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|----|
| Eye | + | + | + | + | + | + | + | + | + | + | 49 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | 49 |
| Zymbal's Gland | | | | | | | | | | | 1 |
| Carcinoma | | | | | | | | | | | 1 |

URINARY SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|----|
| Kidney | + | + | + | + | + | + | + | + | + | + | 50 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Zinc Carbonate, Basic

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Lab: BAT

| | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|----------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
250ppmModZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * TOTALS |
| | ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 9 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 9 | 9 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 0 | 0 | |
| | | 2 | 3 | 4 | 9 | 0 | 2 | 3 | 4 | 1 | |
| | | | | | | | | | | | |

SYSTEMIC LESIONS

| | | | | | | | | | | | |
|--------------------|---|---|---|---|---|---|---|---|---|---|----|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymphoma Malignant | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | females
(cont...) |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|----------------------|
| | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | | |
| | 4 | 6 | 3 | 5 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 9 | 7 | 8 | 6 | 6 | 8 | 1 | 2 | 3 | 4 | 4 | 0 | |
| | 3 | 4 | 0 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 8 | 2 | 8 | 7 | 0 | 1 | 5 | 5 | 5 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 4 | 5 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 8 | |
| | 8 | 9 | 6 | 6 | 7 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | 8 | 9 | 7 | 7 | 5 | 7 | 9 | 9 | 6 | 7 | 8 | 9 | |
| | 9 | 6 | 5 | 9 | 6 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 3 | 1 | 3 | 8 | 9 | 0 | 2 | 6 | 6 | 5 | 8 | 8 | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|---|---|
| Esophagus | + | + | + | + | | | | | | | | | | | | | | | | M | + | + | + | + | + |
| Intestine Large, Cecum | A | | + | + | + | | | | | | | | | | | | | | | M | + | + | + | + | + |
| Intestine Large, Colon | A | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Intestine Large, Rectum | A | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Intestine Small, Duodenum | A | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Intestine Small, Ileum | A | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Intestine Small, Jejunum | A | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Liver | + | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Pancreas | A | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | X | | |
| Salivary Glands | + | | + | + | + | | | | | | | | | | | | | | | | M | + | + | + | + |
| Stomach, Forestomach | A | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Stomach, Glandular | A | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|--|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|---|---|---|
| Blood Vessel | + | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |
| Heart | + | | + | + | + | | | | | | | | | | | | | | | | | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

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

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500ppm ZnExc | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | | | | ANIMAL ID | females
(cont...) | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|----------------------|---|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 |
| | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 4 | 6 | 3 | 5 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 9 | 7 | 8 | 6 | 6 | 8 | 1 | 2 | 3 | 4 | 4 | 4 | |
| | 3 | 4 | 0 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 8 | 2 | 8 | 7 | 0 | 1 | 5 | 5 | 5 | 5 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 4 | 5 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | 8 | 9 | 6 | 6 | 7 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | 8 | 9 | 7 | 5 | 7 | 9 | 9 | 9 | 6 | 7 | 8 | 8 | |
| | 9 | 6 | 5 | 9 | 6 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 0 | 3 | 1 | 3 | 8 | 9 | 0 | 2 | 6 | 5 | 8 | 8 | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Adrenal Cortex | + | + | + | + | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | | + | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | A | | + | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | A | | + | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Pituitary Gland
Pars Distalis, Adenoma | + | | + | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland
C-cell, Adenoma | A | | + | + | + | | | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Clitoral Gland | + | | + | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Ovary
Granulosa Cell Tumor Malignant | A | | + | + | + | | | | | | | | | | | | | | | | | | | | | | |
| Uterus
Adenocarcinoma
Polyp Stromal
Cervix, Schwannoma Malignant | + | | + | + | + | | | | | | | | | | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

| HARLAN SPRAGUE DAWLEY RATS
FEMALE | | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID | females
(cont...) |
|--------------------------------------|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
| | | 651 | 701 | 701 | 714 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | 725 | | |
| 500ppm ZnExc | | 0048 | 0045 | 0056 | 0047 | 0051 | 0052 | 0053 | 0054 | 0055 | 0056 | 0057 | 0058 | 0059 | 0060 | 0061 | 0062 | 0063 | 0064 | 0065 | 0066 | 0067 | 0068 | 0069 | 0070 | 0071 | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Schwannoma Malignant | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
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Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | ANIMAL ID | | | | | | | | | | | | | | | | | | | | | | | | females
(cont...) |
|---|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| | 0651 | 0701 | 0701 | 0704 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0705 | 0706 | 0706 | 0706 | 0706 | 0706 | 0706 | |
| HARLAN SPRAGUE DAWLEY RATS FEMALE
500ppm ZnExc | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| ANIMAL ID | 00498 | 00445 | 00446 | 00449 | 00451 | 00452 | 00453 | 00454 | 00455 | 00456 | 00457 | 00459 | 00460 | 00461 | 00462 | 00463 | 00464 | 00465 | 00466 | 00467 | 00468 | 00469 | 00470 | 00471 | |

ENDOCRINE SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | + | + | + | + | + | + |
| Pituitary Gland
Pars Distalis, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | X | | | | | | | | X | | X | X | | | | | | | | | | | | |
| Thyroid Gland
C-cell, Adenoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | | X | | | | | | | | | | | | | | | | | | | | |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary
Granulosa Cell Tumor Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus
Adenocarcinoma
Polyp Stromal
Cervix, Schwannoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ANIMAL ID | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 5 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | 1 | 1 | 1 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 |
| | | 9 | 5 | 5 | 9 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 9 | 9 | 9 | 0 | 6 | 6 | 6 | 6 | 7 | 8 |
| | | 8 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 7 | 9 | 0 | 1 | 2 | 7 | 8 | 5 | 6 | 4 | 7 | 8 | 0 | 7 |
| | | | | | | | | | | | | | | | | | | | | | | | |

females
(cont...)

NERVOUS SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | | | | |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | | | | |

RESPIRATORY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

URINARY SYSTEM

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SYSTEMIC LESIONS

| | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Histiocytic Sarcoma | | | | | | | | | | X | | | | | | | | | | | | | |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

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Species/Strain: RATS/HSD

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

Time Report Requested: 13:00:00

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

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| FEMALE | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 |
| 500ppm ZnExc | | | | | | | | | | |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 |
| | 2 | 4 | 3 | 4 | 5 | 6 | 1 | 2 | 1 | 4 |
| * TOTALS | | | | | | | | | | |

ALIMENTARY SYSTEM

| | | | | | | | | | | | |
|---------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | 49 |
| Liver | + | + | + | + | + | + | + | + | + | + | 50 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | 49 |
| Schwannoma Malignant | | | | | | | | | | | 1 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | 49 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | 49 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | 49 |

CARDIOVASCULAR SYSTEM

| | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | 50 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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P17: NEOPLASMS BY INDIVIDUAL ANIMAL (SYSTEMIC LESIONS ABRIDGED)

Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Time Report Requested: 13:00:00

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

Lab: BAT

| | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|-----------------|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | |
| | | 2 | 4 | 3 | 4 | 5 | 6 | 1 | 2 | 1 | |
| | | | | | | | | | | | * TOTALS |

ENDOCRINE SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | 50 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | 50 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | 49 |
| Parathyroid Gland | M | + | M | + | + | + | + | + | + | M | 43 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Adenoma | | | | | | | | | | X | 8 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | 48 |
| C-cell, Adenoma | | | | | | | X | | | | 3 |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

| | | | | | | | | | | | |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Ovary | + | + | + | + | + | + | + | + | + | + | 49 |
| Granulosa Cell Tumor Malignant | | | | X | | | | | | | 1 |
| Uterus | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | | | | | | | | | X | | 1 |
| Polyp Stromal | | | | X | | | | | | | 2 |
| Cervix, Schwannoma Malignant | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
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First Dose M/F: 09/03/09 / 09/04/09

Lab: BAT

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| HARLAN SPRAGUE DAWLEY RATS
FEMALE | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 500ppm ZnExc | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 |
| | 2 | 4 | 3 | 4 | 5 | 6 | 1 | 2 | 1 | 4 |
| * TOTALS | | | | | | | | | | |

HEMATOPOIETIC SYSTEM

| | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | | | | | | | | 1 |
| Pancreatic, Schwannoma Malignant | | | | | | | | | | | 1 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | 48 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | 49 |
| Hemangiosarcoma | | | | | | | | | | | 1 |
| Spleen | + | + | + | + | + | + | + | + | + | + | 49 |
| Thymus | + | + | + | + | + | + | + | + | + | + | 49 |
| Thymoma Malignant | | | | | | | | | | | 1 |

INTEGUMENTARY SYSTEM

| | | | | | | | | | | | |
|------------------------|---|---|---|---|---|---|---|---|---|---|-----------|
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | 50 |
| Adenocarcinoma | | X | | | | | | | | | 4 |
| Adenoma | | | X | | | | | | | | 1 |
| Fibroadenoma | | | | | | | | | | | 13 |
| Fibroadenoma, Multiple | | | | | | | X | X | X | | 14 |
| Schwannoma Malignant | | | | | | | | | | | 1 |
| Skin | + | + | + | + | + | + | + | + | + | + | 50 |

MUSCULOSKELETAL SYSTEM

| | | | | | | | | | | | |
|------|---|---|---|---|---|---|---|---|---|---|-----------|
| Bone | + | + | + | + | + | + | + | + | + | + | 50 |
|------|---|---|---|---|---|---|---|---|---|---|-----------|

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
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M .. Missing tissue
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Lab: BAT

| | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS
FEMALE
500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | |
| | | 2 | 4 | 3 | 4 | 5 | 6 | 1 | 2 | 4 | |
| * TOTALS | | | | | | | | | | | |

NERVOUS SYSTEM

| | | | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---|---|----|
| Brain | + | + | + | + | + | + | + | + | + | + | 50 |
| Peripheral Nerve | | | | | | | | | | | 1 |
| Spinal Cord | | | | | | | | | | | 1 |

RESPIRATORY SYSTEM

| | | | | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|---|---|----|
| Lung | + | + | + | + | + | + | + | + | + | + | 50 |
| Nose | + | + | + | + | + | + | + | + | + | + | 50 |
| Trachea | + | + | + | + | + | + | + | + | + | + | 50 |

SPECIAL SENSES SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|----|
| Eye | + | + | + | + | + | + | + | + | + | + | 50 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | 50 |

URINARY SYSTEM

| | | | | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|---|---|----|
| Kidney | + | + | + | + | + | + | + | + | + | + | 49 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | 49 |

SYSTEMIC LESIONS

| | | | | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|---|---|----|
| Multiple Organ | + | + | + | + | + | + | + | + | + | + | 50 |
| Histiocytic Sarcoma | | | | | | | | | | | 1 |

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

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Lab: BAT

*** END OF REPORT ***

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+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

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