

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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**  
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

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HARLAN SPRAGUE DAWLEY RATS MALE Control (38ppm)	DAY ON TEST	0735	0701	0538	0664	0775	0773	0666	0666	0666	0777	0777	0777	0777	0777	0666	0777	0777	0777	0666	0448	0555	0773	0554	0556	males (cont...)
	ANIMAL ID	0010	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	0011	

ALIMENTARY SYSTEM

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum Adenocarcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum Adenocarcinoma	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver Histiocytic Sarcoma Leukemia Mononuclear	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Oral Mucosa																									
Pancreas Acinus, Adenoma Acinus, Adenoma, Multiple Acinus, Carcinoma	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

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

DAY ON TEST	HARLAN SPRAGUE DAWLEY RATS MALE																									ANIMAL ID	males (cont...)
	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735	0735		
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	0	0	00110001	
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Tooth																											+
<b>CARDIOVASCULAR SYSTEM</b>																											
Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
<b>ENDOCRINE SYSTEM</b>																											
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Histiocytic Sarcoma																											X
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Pheochromocytoma Benign																											X
Pheochromocytoma Malignant																											
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Adenoma	X																										
Carcinoma																											X
Parathyroid Gland	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		M
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
Histiocytic Sarcoma																											X

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+ .. Tissue examined microscopically  
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Lab: BAT

HARLAN SPRAGUE DAWLEY RATS MALE Control (38ppm)	DAY ON TEST																									ANIMAL ID	males (cont...)
	0735	0738	0735	0736	0737	0735	0737	0737	0736	0736	0736	0737	0737	0737	0737	0737	0736	0737	0737	0737	0736	0734	0735	0737	0735		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0011001	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0011100	
	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	0011100	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0011100	
	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	0011100	

Histiocytic Sarcoma

X

Lymph Node  
Pancreatic, Lymphoma Malignant

+ + X

Lymph Node, Mandibular

+ +

Lymph Node, Mesenteric

+ +

Spleen  
Leukemia Mononuclear

+ +

Thymus  
Lymphoma Malignant

+ + + + + + + + + + + + + + + + X + + + M + + + +

INTEGUMENTARY SYSTEM

Mammary Gland  
Fibroadenoma

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

Skin  
Basal Cell Carcinoma  
Keratoacanthoma  
Schwannoma Malignant, Metastatic, Peripheral Nerve  
Trichoepithelioma  
Head, Neural Crest Tumor  
Subcutaneous Tissue, Fibroma  
Subcutaneous Tissue, Fibrosarcoma  
Subcutaneous Tissue, Hemangioma  
Subcutaneous Tissue, Hemangiosarcoma

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

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

Stomach, Forestomach

+ +

Stomach, Glandular

+ +

Tooth

+ +

CARDIOVASCULAR SYSTEM

Blood Vessel

+ +

Heart

+ +

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Histiocytic Sarcoma

Adrenal Medulla

+ +

Pheochromocytoma Benign

X X

Pheochromocytoma Malignant

X

Islets, Pancreatic

+ +

Adenoma

X

Carcinoma

Parathyroid Gland

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

Pituitary Gland

+ +

Histiocytic Sarcoma

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Lab: BAT

| DAY ON TEST     | HARLAN SPRAGUE DAWLEY RATS MALE |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | males (cont...) |
|-----------------|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|-----------------|
|                 | 0734                            | 0691 | 0613 | 0733 | 0773 | 0776 | 0767 | 0766 | 0767 | 0766 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 | 0776 |           |                 |
| Control (38ppm) | 0012                            | 0001 | 0000 | 0001 | 0001 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000      | 0000            |

|                                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Histiocytic Sarcoma            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymph Node                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pancreatic, Lymphoma Malignant |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymph Node, Mandibular         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymph Node, Mesenteric         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Spleen                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Leukemia Mononuclear           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Thymus                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lymphoma Malignant             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

INTEGUMENTARY SYSTEM

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Mammary Gland                                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fibroadenoma                                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Skin   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Basal Cell Carcinoma                               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Keratoacanthoma                                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Schwannoma Malignant, Metastatic, Peripheral Nerve |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Trichoepithelioma                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Head, Neural Crest Tumor                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subcutaneous Tissue, Fibroma                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subcutaneous Tissue, Fibrosarcoma                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subcutaneous Tissue, Hemangioma                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Subcutaneous Tissue, Hemangiosarcoma               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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

|                      |           |
|----------------------|-----------|
| Stomach, Forestomach | <b>50</b> |
| Stomach, Glandular   | <b>50</b> |
| Tooth                | <b>3</b>  |

**CARDIOVASCULAR SYSTEM**

|              |           |
|--------------|-----------|
| Blood Vessel | <b>50</b> |
| Heart        | <b>50</b> |

**ENDOCRINE SYSTEM**

|                            |           |
|----------------------------|-----------|
| Adrenal Cortex             | <b>50</b> |
| Histiocytic Sarcoma        | <b>1</b>  |
| Adrenal Medulla            | <b>50</b> |
| Pheochromocytoma Benign    | <b>5</b>  |
| Pheochromocytoma Malignant | <b>1</b>  |
| Islets, Pancreatic         | <b>50</b> |
| Adenoma                    | <b>2</b>  |
| Carcinoma                  | <b>1</b>  |
| Parathyroid Gland          | <b>47</b> |
| Pituitary Gland            | <b>50</b> |
| Histiocytic Sarcoma        | <b>1</b>  |

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|  |             |   |   |   |   |   |   |   |   |   |  |
|--|-------------|---|---|---|---|---|---|---|---|---|--|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>MALE<br/>Control (38ppm)</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |  |
|  |             | 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 |  |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |  |
|  |             | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |  |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
|  |             |   |   |   |   |   |   |   |   |   |  |

\* TOTALS

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Epididymis 50

Mesothelioma Malignant 1

Preputial Gland 50

Prostate 50

Seminal Vesicle 50

Testes 50

Bilateral, Mesothelioma Malignant 1

HEMATOPOIETIC SYSTEM

Bone Marrow 50

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| DAY ON TEST                            | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|---|---|---|---|---|---|---|---|
|  | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| <b>HARLAN SPRAGUE DAWLEY RATS MALE</b> | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| <b>Control (38ppm)</b>                 | 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 |
|  | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>                        |   |   |   |   |   |   |   |   |   |   |

|                                |           |
|--------------------------------|-----------|
| Histiocytic Sarcoma            | <b>1</b>  |
| Lymph Node                     | <b>6</b>  |
| Pancreatic, Lymphoma Malignant | <b>1</b>  |
| Lymph Node, Mandibular         | <b>49</b> |
| Lymph Node, Mesenteric         | <b>50</b> |
| Spleen                         | <b>50</b> |
| Leukemia Mononuclear           | <b>1</b>  |
| Thymus                         | <b>47</b> |
| Lymphoma Malignant             | <b>1</b>  |

**INTEGUMENTARY SYSTEM**

|  |           |
|--|-----------|
| Mammary Gland                                      | <b>50</b> |
| Fibroadenoma                                       | <b>3</b>  |
| Skin   | <b>50</b> |
| Basal Cell Carcinoma                               | <b>1</b>  |
| Keratoacanthoma                                    | <b>3</b>  |
| Schwannoma Malignant, Metastatic, Peripheral Nerve | <b>1</b>  |
| Trichoepithelioma                                  | <b>1</b>  |
| Head, Neural Crest Tumor                           | <b>1</b>  |
| Subcutaneous Tissue, Fibroma                       | <b>2</b>  |
| Subcutaneous Tissue, Fibrosarcoma                  | <b>1</b>  |
| Subcutaneous Tissue, Hemangioma                    | <b>1</b>  |
| Subcutaneous Tissue, Hemangiosarcoma               | <b>1</b>  |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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 |
|                 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|                 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|                 | 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 |
|                 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
|                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b> |   |   |   |   |   |   |   |   |   |   |

Subcutaneous Tissue, Histiocytic Sarcoma

1

### MUSCULOSKELETAL SYSTEM

Bone

50

Histiocytic Sarcoma

1

Cranium, Schwannoma Malignant, Metastatic,  
Peripheral Nerve

1

### NERVOUS SYSTEM

Brain

48

Leukemia Mononuclear

1

Schwannoma Malignant, Metastatic, Peripheral  
Nerve

1

Peripheral Nerve

1

Schwannoma Malignant

1

### RESPIRATORY SYSTEM

Lung

50

Histiocytic Sarcoma

1

Leukemia Mononuclear

1

Nose

50

Schwannoma Malignant, Metastatic, Peripheral  
Nerve

1

Trachea

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

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|                 |   |   |   |   |   |   |   |   |   |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|                 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|                 | 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 |
|                 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
|                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b> |   |   |   |   |   |   |   |   |   |   |

**SPECIAL SENSES SYSTEM**

|  |           |
|--|-----------|
| Eye  | <b>50</b> |
| Harderian Gland                                    | <b>50</b> |
| Schwannoma Malignant, Metastatic, Peripheral Nerve | <b>1</b>  |
| Zymbal's Gland                                     | <b>1</b>  |
| Carcinoma  | <b>1</b>  |

**URINARY SYSTEM**

|                      |           |
|----------------------|-----------|
| Kidney               | <b>50</b> |
| Histiocytic Sarcoma  | <b>1</b>  |
| Leukemia Mononuclear | <b>1</b>  |
| Urinary Bladder      | <b>50</b> |

**SYSTEMIC LESIONS**

|                        |           |
|------------------------|-----------|
| Multiple Organ         | <b>50</b> |
| Histiocytic Sarcoma    | <b>1</b>  |
| Leukemia Mononuclear   | <b>1</b>  |
| Lymphoma Malignant     | <b>1</b>  |
| Mesothelioma Malignant | <b>1</b>  |

\* .. 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<br>MALE<br>3.5ppm SevZnDef | DAY ON TEST | 0734 | 0698 | 0737 | 0734 | 0747 | 0774 | 0773 | 0771 | 0773 | 0764 | 0776 | 0773 | 0777 | 0773 | 0773 | 0773 | 0750 | 0773 | 0757 | 0773 | 0757 | 0773 | 0773 | 0773 | males<br>(cont...) |
|   | ANIMAL ID   | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 |                    |

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                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Mesentery                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Paranglioma               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Acinus, Adenoma           |   |   |   |   |   | X |   |   |   |   | X | X |   |   |   |   |   |   |   |   |   |   |   |   | X |
| Acinus, Adenoma, Multiple |   |   |   | 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

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Lab: BAT

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

Squamous Cell Carcinoma

X X

Stomach, Glandular

+ +

CARDIOVASCULAR SYSTEM

Blood Vessel

+ +

Heart

+ +

Endocardium, Schwannoma Malignant

X

Epicardium, Paraganglioma

X

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Adrenal Medulla

+ +

Pheochromocytoma Benign

Pheochromocytoma Complex

Bilateral, Pheochromocytoma Malignant

X

Islets, Pancreatic

+ +

Adenoma

X

X

X

X

Parathyroid Gland

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

Pituitary Gland

+ +

Pars Distalis, Adenoma

X

X

Thyroid Gland

+ +

C-cell, 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

BLANK .. Not examined microscopically

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Lab: BAT

|   |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                    |
|---|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>3.5ppm SevZnDef | DAY ON TEST | 07 | 06 | 07 | 07 | 07 | 04 | 07 | 07 | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 07 | 05 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | males<br>(cont...) |
|   | ANIMAL ID   | 34 | 88 | 37 | 37 | 34 | 67 | 34 | 34 | 15 | 37 | 49 | 88 | 55 | 55 | 37 | 37 | 55 | 55 | 88 | 44 | 77 | 33 | 33 | 44 |                    |

C-cell, Carcinoma

X

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>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 | males<br>(cont...) |  |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|--|
|   | ANIMAL ID   | 7 | 6 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 7 | 7 | 7 |                    |  |
|   |             | 3 | 9 | 3 | 3 | 3 | 6 | 3 | 3 | 1 | 3 | 4 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 0 | 3 | 3 | 3 |                    |  |
|   |             | 4 | 8 | 7 | 7 | 4 | 7 | 4 | 4 | 5 | 7 | 9 | 8 | 5 | 5 | 5 | 5 | 7 | 7 | 5 | 5 | 8 | 4 | 7 | 7 | 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 | 0                  |  |
|   |             | 0 | 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 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5                  |  |

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Thymus               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Leukemia Mononuclear |   |   |   |   |   |   |   |   |   |   | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Lymphoma Malignant   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

**INTEGUMENTARY SYSTEM**

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland                               | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibroadenoma                                |   | X |   |   |   |   |   |   |   | X |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |
| Schwannoma Malignant                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Skin  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Subcutaneous Tissue, Fibroma                |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |
| Subcutaneous Tissue, Fibrosarcoma           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Subcutaneous Tissue, Fibrosarcoma, Multiple |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Subcutaneous Tissue, Lipoma                 |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |

**MUSCULOSKELETAL SYSTEM**

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

**NERVOUS SYSTEM**

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

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>MALE<br>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 | males<br>(cont...) |
|   |             | 7 | 6 | 7 | 7 | 7 | 4 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 5 | 7 | 7 |                    |
|   |             | 3 | 9 | 3 | 3 | 3 | 6 | 3 | 3 | 1 | 3 | 4 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 0 | 3 | 3 |                    |
| 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 | 0 | 0 | 0 | 0 | 0 | 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 |                    |

**RESPIRATORY SYSTEM**

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

**SPECIAL SENSES SYSTEM**

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

**URINARY SYSTEM**

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 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  
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Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                                  |       |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------------------|-------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 0734  | 0663  | 0773  | 0773  | 0773  | 0573  | 0773  | 0273  | 0773  | 0773  | 0668  | 0664  | 0770  | 0773  | 0773  | 0668  | 0667  | 0773  | 0773  | 0575  | 0773  | 0773  | <b>males</b><br><b>(cont...)</b> |       |
|  | ANIMAL ID   | 00026 | 00027 | 00028 | 00029 | 00030 | 00031 | 00032 | 00033 | 00034 | 00035 | 00036 | 00037 | 00038 | 00039 | 00040 | 00041 | 00042 | 00043 | 00044 | 00045 | 00046 | 00047 |                                  | 00048 |

Squamous Cell Carcinoma

Stomach, Glandular

+ +

**CARDIOVASCULAR SYSTEM**

Blood Vessel

+ +

Heart

Endocardium, Schwannoma Malignant  
Epicardium, Paraganglioma

+ +

**ENDOCRINE SYSTEM**

Adrenal Cortex

+ +

Adrenal Medulla

Pheochromocytoma Benign  
Pheochromocytoma Complex  
Bilateral, Pheochromocytoma Malignant

+  
X  
X

Islets, Pancreatic

Adenoma

+  
X X

Parathyroid Gland

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

Pituitary Gland

Pars Distalis, Adenoma

+  
X X

Thyroid Gland

C-cell, Adenoma

+  
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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|  |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 07 | 06 | 07 | 07 | 07 | 07 | 05 | 07 | 02 | 07 | 07 | 06 | 06 | 07 | 07 | 07 | 06 | 06 | 07 | 07 | 05 | 07 | 07 |
|  | ANIMAL ID   | 34 | 63 | 73 | 73 | 73 | 73 | 84 | 85 | 44 | 44 | 66 | 69 | 44 | 55 | 77 | 77 | 11 | 75 | 74 | 34 | 34 | 51 | 34 |
|  |             | 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 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
|  |             | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |

males  
(cont...)

C-cell, Carcinoma

X

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear   |   | 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

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Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|  |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 07 | 06 | 07 | 07 | 07 | 07 | 05 | 07 | 02 | 07 | 07 | 06 | 06 | 07 | 07 | 07 | 07 | 06 | 06 | 07 | 07 | 05 | 07 | 07 |
|  | ANIMAL ID   | 34 | 63 | 73 | 73 | 73 | 73 | 84 | 45 | 44 | 44 | 66 | 94 | 55 | 77 | 77 | 77 | 11 | 77 | 55 | 44 | 44 | 11 | 33 | 33 |
|  |             | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
|  |             | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 33 | 33 | 33 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |

males  
(cont...)

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thymus               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |

INTEGUMENTARY SYSTEM

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland                               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Fibroadenoma                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Schwannoma Malignant                        |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Skin  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Subcutaneous Tissue, Fibroma                |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   | X |
| Subcutaneous Tissue, Fibrosarcoma           |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Subcutaneous Tissue, Fibrosarcoma, Multiple |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Subcutaneous Tissue, Lipoma                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

MUSCULOSKELETAL SYSTEM

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

NERVOUS SYSTEM

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

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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|   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                    |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>3.5ppm SevZnDef | DAY ON TEST | 0734  | 0633  | 0734  | 0737  | 0737  | 0533  | 0733  | 0238  | 0734  | 0734  | 0636  | 0639  | 0734  | 0735  | 0737  | 0631  | 0637  | 0635  | 0734  | 0734  | 0531  | 0734  | 0734  | males<br>(cont...) |
|   | ANIMAL ID   | 00026 | 00027 | 00028 | 00029 | 00030 | 00031 | 00032 | 00033 | 00034 | 00035 | 00036 | 00037 | 00038 | 00039 | 00040 | 00041 | 00042 | 00043 | 00044 | 00045 | 00046 | 00047 | 00048 |                    |

RESPIRATORY SYSTEM

|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung                         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Alveolar/Bronchiolar Adenoma |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Leukemia Mononuclear         |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Nose                         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SPECIAL SENSES SYSTEM

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

URINARY SYSTEM

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kidney               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Urinary Bladder      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

SYSTEMIC LESIONS

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multiple Organ       | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear |   | X |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 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  
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BLANK .. Not examined microscopically

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Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>MALE</b><br><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  |             | 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 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |             |   |   |   |   |   |   |   |   |   |

**\* 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 |
| Leukemia Mononuclear      | 2  |
| Mesentery                 | 1  |
| Paraganglioma             | 1  |
| Pancreas                  | 50 |
| Leukemia Mononuclear      | 1  |
| Acinus, Adenoma           | 8  |
| Acinus, Adenoma, Multiple | 13 |
| 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  
A .. Autolysis precludes evaluation  
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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 |
|--|------------------------|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>MALE</b> |                        | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |                        | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  |                        | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | <b>3.5ppm SevZnDef</b> |   |   |   |   |   |   |   |   |   |   |
| ANIMAL ID                                  |                        | 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 | 1 |   |
|  |                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>                            |                        |   |   |   |   |   |   |   |   |   |   |

Squamous Cell Carcinoma

2

Stomach, Glandular

50

**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

6

Parathyroid Gland

41

Pituitary Gland

50

Pars Distalis, Adenoma

8

Thyroid Gland

50

C-cell, Adenoma

5

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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|  |             |   |   |   |   |   |   |   |   |   |                 |
|--|-------------|---|---|---|---|---|---|---|---|---|-----------------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |                 |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |                 |
|  |             | 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 |                 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |                 |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |                 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                 |
|  |             |   |   |   |   |   |   |   |   |   | <b>* TOTALS</b> |

C-cell, Carcinoma

2

**GENERAL BODY SYSTEM**

NONE

**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 |
| Leukemia Mononuclear   | 2  |

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Lab: BAT

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

|                      |           |
|----------------------|-----------|
| Thymus               | <b>49</b> |
| Leukemia Mononuclear | <b>1</b>  |
| Lymphoma Malignant   | <b>1</b>  |

**INTEGUMENTARY SYSTEM**

|   |           |
|---|-----------|
| Mammary Gland                               | <b>49</b> |
| Fibroadenoma                                | <b>3</b>  |
| Schwannoma Malignant                        | <b>1</b>  |
| Skin  | <b>50</b> |
| Subcutaneous Tissue, Fibroma                | <b>4</b>  |
| Subcutaneous Tissue, Fibrosarcoma           | <b>1</b>  |
| Subcutaneous Tissue, Fibrosarcoma, Multiple | <b>1</b>  |
| Subcutaneous Tissue, Lipoma                 | <b>2</b>  |

**MUSCULOSKELETAL SYSTEM**

|      |           |
|------|-----------|
| Bone | <b>50</b> |
|------|-----------|

**NERVOUS SYSTEM**

|                                       |           |
|---------------------------------------|-----------|
| Brain                                 | <b>50</b> |
| Cerebrum, Astrocytoma Malignant       | <b>1</b>  |
| Cerebrum, Oligodendroglioma Malignant | <b>1</b>  |
| Peripheral Nerve                      | <b>1</b>  |
| Spinal Cord                           | <b>1</b>  |

\* .. 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

|  |             |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  |             | 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 |   |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |   |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |   |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |   |
| <b>* TOTALS</b>  |             |   |   |   |   |   |   |   |   |   |

**RESPIRATORY SYSTEM**

|                              |           |
|------------------------------|-----------|
| Lung                         | <b>50</b> |
| Alveolar/Bronchiolar Adenoma | <b>1</b>  |
| Leukemia Mononuclear         | <b>1</b>  |
| Nose                         | <b>50</b> |
| Trachea                      | <b>50</b> |

**SPECIAL SENSES SYSTEM**

|                 |           |
|-----------------|-----------|
| Eye             | <b>49</b> |
| Harderian Gland | <b>49</b> |

**URINARY SYSTEM**

|                      |           |
|----------------------|-----------|
| Kidney               | <b>50</b> |
| Leukemia Mononuclear | <b>1</b>  |
| Urinary Bladder      | <b>50</b> |

**SYSTEMIC LESIONS**

|                      |           |
|----------------------|-----------|
| Multiple Organ       | <b>50</b> |
| Leukemia Mononuclear | <b>2</b>  |
| Lymphoma Malignant   | <b>1</b>  |

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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 |
|--|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>MALE</b> | <b>7ppm ZnDef</b> | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 7 |
|  |                   | 3 | 3 | 3 | 3 | 5 | 3 | 3 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 7 | 3 | 3 | 8 | 3 | 3 | 3 | 3 | 2 |
|  |                   | 6 | 6 | 4 | 4 | 9 | 4 | 4 | 4 | 1 | 5 | 7 | 7 | 4 | 4 | 4 | 7 | 0 | 7 | 5 | 7 | 4 | 4 | 4 | 4 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |                   | 0 | 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 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  |                   | 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 |

males  
(cont...)

ALIMENTARY SYSTEM

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

\* .. 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

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>7ppm ZnDef  | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | males<br>(cont...) |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
|   | 0736        | 0736 | 0734 | 0774 | 0659 | 0774 | 0774 | 0774 | 0774 | 0501 | 0757 | 0774 | 0774 | 0774 | 0774 | 0670 | 0773 | 0733 | 0688 | 0773 | 0774 | 0774 | 0774 | 0774 | 0774 |           |                    |
| Stomach, Forestomach  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                    |
| Stomach, Glandular  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                    |
| Tooth   |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | +    |           |                    |
| <b>CARDIOVASCULAR SYSTEM</b>  |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |
| Blood Vessel<br>Schwannoma Malignant, Metastatic, Skin  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                    |
| Heart<br>Schwannoma Malignant, Metastatic, Skin<br>Endocardium, Schwannoma Malignant                                      | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                    |
| <b>ENDOCRINE SYSTEM</b>   |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |           |                    |
| Adrenal Cortex  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                    |
| Adrenal Medulla<br>Pheochromocytoma Benign<br>Bilateral, Pheochromocytoma Benign<br>Bilateral, Pheochromocytoma Malignant | +           | +    | +    | +    |      | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                    |
| Islets, Pancreatic<br>Adenoma<br>Carcinoma  | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |           |                    |
| Parathyroid Gland   | +           | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | M    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    | +    |      |           |                    |

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

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|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|
|  | 0736        | 0736  | 0734  | 0734  | 0659  | 0774  | 0774  | 0774  | 0774  | 0571  | 0775  | 0777  | 0777  | 0774  | 0774  | 0777  | 0670  | 0773  | 0773  | 0688  | 0774  | 0774  | 0773  | 0774  | 0776  |                    |
| ANIMAL ID  | 00051       | 00052 | 00053 | 00054 | 00055 | 00056 | 00057 | 00058 | 00059 | 00060 | 00061 | 00062 | 00063 | 00064 | 00065 | 00066 | 00067 | 00068 | 00069 | 00070 | 00071 | 00072 | 00073 | 00074 | 00075 |                    |

|                            |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pituitary Gland            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Pars Distalis, Adenoma     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pars Intermedia, Adenoma   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Thyroid Gland              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Bilateral, C-cell, Adenoma |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| C-cell, Carcinoma          |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

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

**HEMATOPOIETIC SYSTEM**

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

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 |  | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | males (cont...) |      |      |  |
|---------------------------------|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------------|------|------|--|
|                                 |  | 0736        | 0736 | 0734 | 0774 | 0659 | 0774 | 0774 | 0774 | 0774 | 0575 | 0774 | 0774 | 0774 | 0774 | 0774 | 0774 | 0677 | 0774 | 0677 | 0774 | 0677 | 0774 | 0774 | 0774 | 0774 | 0677 |                 | 0774 |      |  |
| 7ppm ZnDef                      |  | ANIMAL ID   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                 |      |      |  |
|                                 |  | 0000        | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000            | 0000 | 0000 |  |
|                                 |  | 51          | 52   | 53   | 54   | 55   | 56   | 57   | 58   | 59   | 60   | 61   | 62   | 63   | 64   | 65   | 66   | 67   | 68   | 69   | 70   | 71   | 72   | 73   | 74   | 75   | 76   | 77              | 78   | 79   |  |

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Lymph Node   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Lymph Node, Mandibular   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Lymph Node, Mesenteric<br>Schwannoma Malignant, Metastatic, Skin       | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Spleen   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Thymus<br>Lymphoma Malignant<br>Schwannoma Malignant, Metastatic, Skin | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |  |

| INTEGUMENTARY SYSTEM   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Mammary Gland<br>Fibroma<br>Schwannoma Malignant   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |
| Skin<br>Basal Cell Carcinoma<br>Keratoacanthoma<br>Schwannoma Malignant<br>Sebaceous Gland, Adenoma<br>Subcutaneous Tissue, Carcinoma, Metastatic,<br>Thyroid Gland<br>Subcutaneous Tissue, Fibroma<br>Tail, Papilloma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>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 |   | males<br>(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 |           |   |                    |  |  |  |
| Bone   | 7           | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 5 | 7 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 6 | 0         |   |                    |  |  |  |
| Skeletal Muscle                                  | 3           | 3 | 3 | 3 | 5 | 3 | 3 | 3 | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 0 | 7 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 0         |   |                    |  |  |  |
| Schwannoma Malignant                             | 6           | 6 | 4 | 4 | 9 | 4 | 4 | 4 | 1 | 5 | 7 | 7 | 4 | 4 | 4 | 7 | 0 | 7 | 5 | 7 | 4 | 4 | 4 | 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         |   |                    |  |  |  |
|  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 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         | 1 |                    |  |  |  |
|  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| <b>NERVOUS SYSTEM</b>                            |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| Brain  |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +         | + |                    |  |  |  |
| Peripheral Nerve                                 |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| Spinal Cord                                      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| <b>RESPIRATORY SYSTEM</b>                        |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| Lung   |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +         | + |                    |  |  |  |
| Carcinoma, Metastatic, Thyroid Gland             |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| Cystic Keratinizing Epithelioma                  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| Neuroblastoma, Metastatic, Nose                  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| Schwannoma Malignant, Metastatic, Skin           |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| Nose   |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +         | + |                    |  |  |  |
| Olfactory Epithelium, Neuroblastoma              |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| Trachea  |             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | +         | + |                    |  |  |  |
| <b>SPECIAL SENSES SYSTEM</b>                     |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |           |   |                    |  |  |  |
| 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>7ppm ZnDef | DAY ON TEST | 07   | 07   | 07   | 07   | 06   | 07   | 07   | 07   | 07   | 05   | 07   | 07   | 07   | 07   | 07   | 06   | 07   | 07   | 06   | 07   | 07   | 07   | 06   | 07   | 07   | 06 | males<br>(cont...) |
|  | ANIMAL ID   | 0001 | 0002 | 0003 | 0004 | 0005 | 0006 | 0007 | 0008 | 0009 | 0010 | 0011 | 0012 | 0013 | 0014 | 0015 | 0016 | 0017 | 0018 | 0019 | 0020 | 0021 | 0022 | 0023 | 0024 | 0025 |    |                    |
|  |             | 6    | 6    | 4    | 4    | 9    | 4    | 4    | 4    | 1    | 5    | 7    | 7    | 4    | 4    | 4    | 7    | 3    | 3    | 8    | 3    | 3    | 3    | 3    | 2    | 7    |    |                    |

Harderian Gland

+ +

URINARY SYSTEM

Kidney  
Schwannoma Malignant, Metastatic, Skin

+ +

Urinary Bladder

+ +

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

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

ALIMENTARY SYSTEM

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

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>7ppm ZnDef | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | males<br>(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|--------------------|
|  | 0502        | 0604 | 0608 | 0508 | 0708 | 0401 | 0606 | 0406 | 0704 | 0708 | 0505 | 0606 | 0703 | 0707 | 0500 | 0704 | 0606 | 0703 | 0405 | 0608 | 0703 | 0505 | 0000 | 0000 | 0001 |           |                    |
|  | 0           | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |           |                    |

Stomach, Forestomach

+ +

Stomach, Glandular

+ +

Tooth

CARDIOVASCULAR SYSTEM

Blood Vessel

+ +

Schwannoma Malignant, Metastatic, Skin

X

Heart

+ +

Schwannoma Malignant, Metastatic, Skin

X

Endocardium, Schwannoma Malignant

X

X

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Adrenal Medulla

+ +

Pheochromocytoma Benign

X

X

X

X

Bilateral, Pheochromocytoma Benign

X

Bilateral, Pheochromocytoma Malignant

Islets, Pancreatic

+ +

Adenoma

X

X

Carcinoma

Parathyroid Gland

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

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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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 | 0 | 0 | 0                | 0 |   |
|------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------------------|---|---|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE | 5 | 6 | 6 | 5 | 7 | 4 | 6 | 4 | 7 | 7 | 5 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 4 | 6 | 7 | 7 | 5 | 7 | 4 | 6 | 7 | 7                | 5 | 7 |
| 7ppm ZnDef                         | 0 | 8 | 9 | 6 | 0 | 9 | 4 | 0 | 3 | 2 | 7 | 6 | 3 | 3 | 8 | 3 | 7 | 3 | 3 | 8 | 3 | 3 | 3 | 3 | 8 | 3 | 3 | 3 | 9                | 3 | 4 |
| ANIMAL ID                          | 2 | 4 | 0 | 8 | 8 | 0 | 1 | 6 | 4 | 8 | 5 | 0 | 7 | 7 | 0 | 4 | 6 | 5 | 5 | 9 | 8 | 5 | 5 | 4 | 8 | 5 | 5 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0                | 0 | 0 |
|                                    | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9                | 9 | 9 |
|                                    | 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 |
|                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>males</b>     |   |   |
|                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>(cont...)</b> |   |   |

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lymph Node                             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mandibular                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric                 | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Schwannoma Malignant, Metastatic, Skin |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Spleen                                 | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus                                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Schwannoma Malignant, Metastatic, Skin |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**INTEGUMENTARY SYSTEM**

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

**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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>MALE<br>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 | 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 |   |   |   |
|  |             | 5 | 6 | 6 | 5 | 7 | 4 | 6 | 4 | 7 | 7 | 5 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 4 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 3 | 3 | 8 | 3 | 7 | 3 | 3 | 8 | 3 | 3 | 9 |

males  
(cont...)

Bone +

Skeletal Muscle  
Schwannoma Malignant

NERVOUS SYSTEM

Brain +

Peripheral Nerve

Spinal Cord

RESPIRATORY SYSTEM

Lung +  
 Carcinoma, Metastatic, Thyroid Gland X  
 Cystic Keratinizing Epithelioma  
 Neuroblastoma, Metastatic, Nose X  
 Schwannoma Malignant, Metastatic, Skin X

Nose +  
 Olfactory Epithelium, Neuroblastoma X

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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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

|   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                            |   |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------------------|---|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>MALE<br/>7ppm ZnDef</b> | 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 | <b>males<br/>(cont...)</b> |   |
|   |             | 5 | 6 | 6 | 5 | 7 | 4 | 6 | 4 | 7 | 7 | 5 | 6 | 7 | 7 | 5 | 7 | 6 | 7 | 7 | 4 | 6 | 7 | 5 |                            | 7 |
|   |             | 0 | 8 | 9 | 6 | 0 | 9 | 4 | 0 | 3 | 2 | 7 | 6 | 3 | 3 | 8 | 3 | 7 | 3 | 3 | 3 | 8 | 3 | 3 |                            | 9 |
|   | 2           | 4 | 0 | 8 | 8 | 0 | 1 | 6 | 4 | 8 | 5 | 0 | 7 | 7 | 0 | 4 | 6 | 5 | 5 | 9 | 8 | 5 | 5 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1                          |   |
|   |             | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0                          |   |
|   |             | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9                          |   |

Harderian Gland

+ +

**URINARY SYSTEM**

Kidney

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

Schwannoma Malignant, Metastatic, Skin

X

Urinary Bladder

+ +

**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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>7ppm ZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |             | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 |
|  |             | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 |
|  |             | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
|  | ANIMAL ID   | 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 |   |
|  | 1           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |   |
|  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |   |
| <b>* TOTALS</b>                                  |             |   |   |   |   |   |   |   |   |   |

**ALIMENTARY SYSTEM**

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

\* .. 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|
|                                   | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 |
| <b>HARLAN SPRAGUE DAWLEY RATS</b> | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 |
| <b>MALE</b>                       | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| <b>7ppm ZnDef</b>                 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID                         | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                                   | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                                   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
|                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>                   |   |   |   |   |   |   |   |   |   |   |

|                      |           |
|----------------------|-----------|
| Stomach, Forestomach | <b>50</b> |
| Stomach, Glandular   | <b>50</b> |
| Tooth                | <b>1</b>  |

**CARDIOVASCULAR SYSTEM**

|  |           |
|--|-----------|
| Blood Vessel                           | <b>50</b> |
| Schwannoma Malignant, Metastatic, Skin | <b>1</b>  |
| Heart                                  | <b>50</b> |
| Schwannoma Malignant, Metastatic, Skin | <b>1</b>  |
| Endocardium, Schwannoma Malignant      | <b>2</b>  |

**ENDOCRINE SYSTEM**

|                                       |           |
|---------------------------------------|-----------|
| Adrenal Cortex                        | <b>50</b> |
| Adrenal Medulla                       | <b>50</b> |
| Pheochromocytoma Benign               | <b>8</b>  |
| Bilateral, Pheochromocytoma Benign    | <b>2</b>  |
| Bilateral, Pheochromocytoma Malignant | <b>1</b>  |
| Islets, Pancreatic                    | <b>50</b> |
| Adenoma                               | <b>2</b>  |
| Carcinoma                             | <b>1</b>  |
| Parathyroid Gland                     | <b>44</b> |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

Lab: BAT

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

|                            |           |
|----------------------------|-----------|
| Pituitary Gland            | <b>50</b> |
| Pars Distalis, Adenoma     | <b>4</b>  |
| Pars Intermedia, Adenoma   | <b>2</b>  |
| Thyroid Gland              | <b>50</b> |
| Bilateral, C-cell, Adenoma | <b>1</b>  |
| C-cell, Carcinoma          | <b>3</b>  |

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|                 |           |
|-----------------|-----------|
| Epididymis      | <b>50</b> |
| Penis           | <b>1</b>  |
| Preputial Gland | <b>50</b> |
| Prostate        | <b>50</b> |
| Seminal Vesicle | <b>50</b> |
| Testes          | <b>50</b> |

**HEMATOPOIETIC SYSTEM**

|             |           |
|-------------|-----------|
| Bone Marrow | <b>50</b> |
|-------------|-----------|

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>7ppm ZnDef | DAY ON TEST |   |   |   |   |   |   |   |   |   | ANIMAL ID |
|--|-------------|---|---|---|---|---|---|---|---|---|-----------|
|  | 0           | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |           |
|  | 3           | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 3 |           |
|  | 7           | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 |           |
|  | 0           | 0 | 0 | 0 | 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 |           |
|  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |           |
|  | 1           | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |           |
|  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |           |
| <b>* TOTALS</b>                                  |             |   |   |   |   |   |   |   |   |   |           |

Lymph Node 4

Lymph Node, Mandibular 50

Lymph Node, Mesenteric 49  
Schwannoma Malignant, Metastatic, Skin 1

Spleen 49

Thymus 50  
Lymphoma Malignant 1  
Schwannoma Malignant, Metastatic, Skin 1

**INTEGUMENTARY SYSTEM**

Mammary Gland 50  
Fibroma 2  
Schwannoma Malignant 1

Skin 50  
Basal Cell Carcinoma 1  
Keratoacanthoma 2  
Schwannoma Malignant 1  
Sebaceous Gland, Adenoma 1  
Subcutaneous Tissue, Carcinoma, Metastatic, Thyroid Gland 1  
Subcutaneous Tissue, Fibroma 3  
Tail, Papilloma 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Zinc Carbonate, Basic

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

Lab: BAT

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

Bone 50

Skeletal Muscle 1  
Schwannoma Malignant 1

**NERVOUS SYSTEM**

Brain 50

Peripheral Nerve 1

Spinal Cord 1

**RESPIRATORY SYSTEM**

Lung 50  
Carcinoma, Metastatic, Thyroid Gland 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

\* .. 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<br>MALE<br>7ppm ZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |             | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 |  |
|  |             | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 |  |
|  |             | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |  |
|  | ANIMAL ID   | 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 |   |  |
|  |             | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |   |  |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| <b>* TOTALS</b>                                  |             |   |   |   |   |   |   |   |   |   |  |

Harderian Gland

50

URINARY SYSTEM

Kidney  
Schwannoma Malignant, Metastatic, Skin

50  
1

Urinary Bladder

50

SYSTEMIC LESIONS

Multiple Organ  
Lymphoma Malignant

50  
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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>250ppmModZnExc | DAY ON TEST | 0723  | 0677  | 0661  | 0664  | 0551  | 0773  | 0667  | 0474  | 0770  | 0662  | 0333  | 0559  | 0773  | 0668  | 0773  | 0773  | 0773  | 0664  | 0333  | 0773  | 0773  | 0443  | 0443  | 0661  | 0443  | 0664 | males<br>(cont...) |
|  | ANIMAL ID   | 00151 | 00152 | 00153 | 00154 | 00155 | 00156 | 00157 | 00158 | 00159 | 00160 | 00161 | 00162 | 00163 | 00164 | 00165 | 00166 | 00167 | 00168 | 00169 | 00170 | 00171 | 00172 | 00173 | 00174 | 00175 |      |                    |
|  |             | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    |                    |

ALIMENTARY SYSTEM

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum                                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum                               | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum                                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Liver   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear                                    |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant                                      |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pheochromocytoma Malignant, Metastatic, Adrenal Medulla |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Oral Mucosa   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Squamous Cell Carcinoma                                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pancreas  | + | + | + | + | + | + | A | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant                                      |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Acinus, Adenoma   |   |   |   | X |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |
| Acinus, Adenoma, Multiple                               |   |   |   |   |   |   |   |   |   |   |   |   |   | X | 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  
BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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<br>MALE<br>250ppmModZnExc | DAY ON TEST |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ANIMAL ID | males<br>(cont...) |
|--|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------|--------------------|
|  | 073         | 067 | 061 | 064 | 055 | 073 | 066 | 044 | 077 | 066 | 047 | 062 | 033 | 055 | 077 | 066 | 048 | 073 | 063 | 037 | 077 | 044 | 063 | 036 |           |                    |
|  | 001         | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 | 000 |           |                    |

Salivary Glands  
Lymphoma Malignant

+  
X

Stomach, Forestomach  
Lymphoma Malignant

+  
X

Stomach, Glandular  
Lymphoma Malignant

+  
X

**CARDIOVASCULAR SYSTEM**

Blood Vessel  
Lymphoma Malignant

+  
X

Heart  
Lymphoma Malignant  
Endocardium, Schwannoma Malignant

+  
X

**ENDOCRINE SYSTEM**

Adrenal Cortex

+ +

Adrenal Medulla  
Pheochromocytoma Benign  
Pheochromocytoma Malignant

+  
X X X

Islets, Pancreatic  
Adenoma  
Carcinoma

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

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Zinc Carbonate, Basic

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>250ppmModZnExc | DAY ON TEST    |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                | ANIMAL ID      | males<br>(cont...) |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------|----------------|----------------|----------------|
|  | 07<br>23       | 06<br>77       | 06<br>17       | 06<br>44       | 05<br>51       | 07<br>34       | 06<br>70       | 04<br>44       | 07<br>07       | 06<br>20       | 03<br>63       | 05<br>93       | 07<br>34       | 06<br>63       | 07<br>75       | 06<br>34       | 03<br>70       | 07<br>35       | 07<br>75       | 04<br>41       |                |                    | 04<br>63       | 06<br>44       |                |
|  | 00<br>11<br>51 | 00<br>01<br>52 | 00<br>01<br>53 | 00<br>01<br>54 | 00<br>01<br>55 | 00<br>01<br>56 | 00<br>01<br>57 | 00<br>01<br>58 | 00<br>01<br>59 | 00<br>01<br>60 | 00<br>01<br>61 | 00<br>01<br>62 | 00<br>01<br>63 | 00<br>01<br>64 | 00<br>01<br>65 | 00<br>01<br>66 | 00<br>01<br>67 | 00<br>01<br>68 | 00<br>01<br>69 | 00<br>01<br>70 | 00<br>01<br>71 | 00<br>01<br>72     | 00<br>01<br>73 | 00<br>01<br>74 | 00<br>01<br>75 |

Bone Marrow  
Lymphoma Malignant

+  
X

Lymph Node  
Lumbar, Lymphoma Malignant  
Mediastinal, Lymphoma Malignant

+  
X X X

Lymph Node, Mandibular  
Lymphoma Malignant

+  
X

Lymph Node, Mesenteric  
Lymphoma Malignant

+  
X

Spleen  
Leukemia Mononuclear  
Lymphoma Malignant

+ + + + + + A + + + + + + + + + + + + + + + + + + +  
X X

Thymus  
Lymphoma Malignant

+ + + + M + + + + + + + + + + + + + + + + + + + M  
X X

INTEGUMENTARY SYSTEM

Mammary Gland  
Fibroadenoma  
Fibroma  
Lymphoma Malignant

+  
X

Skin  
Basal Cell Adenoma  
Subcutaneous Tissue, Fibroma

+ +

\* .. 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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

|   |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>HARLAN SPRAGUE DAWLEY RATS MALE</b><br><b>250ppmModZnExc</b> | DAY ON TEST | 07 | 06 | 06 | 06 | 05 | 07 | 06 | 04 | 07 | 06 | 03 | 05 | 07 | 06 | 07 | 07 | 03 | 04 | 03 | 07 | 07 | 04 | 04 | 06 | 06 |
|   | 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 |
|   |             | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
|   |             | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |

males (cont...)

Subcutaneous Tissue, Lipoma X  
 Subcutaneous Tissue, Schwannoma Malignant

**MUSCULOSKELETAL SYSTEM**

|                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Humerus, Osteosarcoma |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 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               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Nose               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

\* .. 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

|   |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                                  |
|---|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------------------------------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>250ppmModZnExc</b> | DAY ON TEST | 07 | 06 | 06 | 06 | 05 | 07 | 06 | 04 | 07 | 06 | 03 | 05 | 07 | 06 | 07 | 07 | 07 | 06 | 03 | 07 | 07 | 04 | 04 | 06 | <b>males</b><br><b>(cont...)</b> |
|   | 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 |                                  |
|   | 11          | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |                                  |

Trachea +

**SPECIAL SENSES SYSTEM**

Eye +  
 Optic Nerve, Schwannoma Malignant X

Harderian Gland +  
 Lymphoma Malignant X

**URINARY SYSTEM**

Kidney +  
 Lymphoma Malignant X  
 Renal Tubule, Adenoma X

Urinary Bladder +  
 Lymphoma Malignant X

**SYSTEMIC LESIONS**

Multiple Organ +  
 Leukemia Mononuclear X  
 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  
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|  |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                    |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>250ppmModZnExc | DAY ON TEST | 04 | 06 | 05 | 07 | 07 | 07 | 07 | 06 | 07 | 07 | 05 | 07 | 07 | 06 | 07 | 06 | 07 | 07 | 06 | 06 | 07 | 07 | 06 | 07 | 06 | 07 |    |                    |
|  | ANIMAL ID   | 20 | 28 | 26 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 26 | 23 | 23 | 28 | 23 | 27 | 21 | 27 | 23 | 23 | 23 | 28 | 22 | 23 | 27 | 21 |    | 23                 |
|  |             | 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 | males<br>(cont...) |
|  |             | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 |                    |
|  |             | 07 | 07 | 07 | 07 | 08 | 08 | 08 | 08 | 08 | 08 | 08 | 08 | 08 | 08 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 |                    |
|  |             | 06 | 07 | 08 | 09 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 00 | 00 | 00 |                    |

ALIMENTARY SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum                                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon                                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum                                    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum                                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum<br>Adenocarcinoma                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear                                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pheochromocytoma Malignant, Metastatic,<br>Adrenal Medulla |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |
| Oral Mucosa  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | + |
| Squamous Cell Carcinoma                                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |
| Pancreas   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Acinus, Adenoma  |   |   |   | X |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |
| Acinus, Adenoma, Multiple                                  |   |   |   |   |   |   |   |   |   | X | 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  
 BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>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 | males<br>(cont...) |   |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------|---|
|  | ANIMAL ID   | 4 | 6 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 3 | 7 | 3 | 6 | 6 | 5 | 6 |                    | 7 |
|  |             | 2 | 8 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 8 | 3 | 7 | 3 | 3 | 3 | 3 | 8 | 2 | 5 | 3 | 7 |                    | 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 | 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 | 2                  |   |
|  |             | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0                  |   |
|  |             | 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 |                    |   |

Salivary Glands  
Lymphoma Malignant

+ +

Stomach, Forestomach  
Lymphoma Malignant

+ +

Stomach, Glandular  
Lymphoma Malignant

+ +

CARDIOVASCULAR SYSTEM

Blood Vessel  
Lymphoma Malignant

+ +

Heart  
Lymphoma Malignant  
Endocardium, Schwannoma Malignant

+  
X

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Adrenal Medulla  
Pheochromocytoma Benign  
Pheochromocytoma Malignant

+  
X X X X X  
X

Islets, Pancreatic  
Adenoma  
Carcinoma

+  
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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>250ppmModZnExc | DAY ON TEST | 04    | 06    | 05    | 07    | 07    | 07    | 07    | 06    | 07    | 07    | 05    | 07    | 07    | 06    | 07    | 06    | 07    | 07    | 03    | 03    | 03    | 06    | 06    | 05    | 00    | 06    | 07    | 07    | 06    | 07 |
|  | ANIMAL ID   | 00176 | 00077 | 00078 | 00079 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | 00100 | 00101 | 00102 | 00103 | 00104 |    |

males  
(cont...)

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parathyroid Gland                                     | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | M | + |   |
| Pituitary Gland<br>Pars Distalis, Adenoma             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thyroid Gland<br>C-cell, Adenoma<br>C-cell, Carcinoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Epididymis   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Preputial Gland<br>Carcinoma<br>Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Prostate<br>Lymphoma Malignant                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Seminal Vesicle<br>Lymphoma Malignant              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Testes   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

HEMATOPOIETIC 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>250ppmModZnExc | DAY ON TEST |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | ANIMAL ID | males<br>(cont...) |    |    |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|--------------------|----|----|
|  | 04          | 06 | 05 | 07 | 07 | 07 | 07 | 06 | 07 | 07 | 05 | 07 | 07 | 06 | 07 | 06 | 07 | 07 | 03 | 03 | 03 | 03 | 06 | 06 |           |                    | 07 | 07 |
|  | 20          | 28 | 06 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03 | 03        | 03                 | 03 | 03 |
|  | 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 |
|  | 11          | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11        | 11                 | 11 | 12 |
|  | 76          | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 99        | 99                 | 99 | 00 |

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow<br>Lymphoma Malignant   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Lymph Node<br>Lumbar, Lymphoma Malignant<br>Mediastinal, Lymphoma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | + |
| Lymph Node, Mandibular<br>Lymphoma Malignant                                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric<br>Lymphoma Malignant                                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen<br>Leukemia Mononuclear<br>Lymphoma Malignant                        | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Thymus<br>Lymphoma Malignant  | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + |

INTEGUMENTARY SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mammary Gland<br>Fibroadenoma<br>Fibroma<br>Lymphoma Malignant | + | + | + | M | + | + | + | M | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Skin<br>Basal Cell Adenoma<br>Subcutaneous Tissue, Fibroma     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 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

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P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>250ppmModZnExc</b> | 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 |   |
|   |             | 4 | 6 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 3 | 3 | 3 | 3 | 6 | 6 | 5 | 0 | 0 |
|   |             | 2 | 8 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 8 | 3 | 7 | 3 | 3 | 3 | 8 | 2 | 3 | 7 | 1 | 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 |   |
|   | 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 | 2 | 0 |   |
|   | 7           | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | 0 |   |
|   | 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 | 0 | 0 |   |

males  
(cont...)

Subcutaneous Tissue, Lipoma  
Subcutaneous Tissue, Schwannoma Malignant X

MUSCULOSKELETAL SYSTEM

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

NERVOUS SYSTEM

|                                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain                                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Granular Cell Tumor Malignant         |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Cerebrum, Meningioma Malignant        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Cerebrum, Oligodendroglioma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |
| Peripheral Nerve                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Spinal Cord                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

RESPIRATORY SYSTEM

|                    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Nose               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b> | 4 | 6 | 5 | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 5 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 6 | 7 | 7 | 6 | 7 |   |
|                                   | 2 | 8 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3 | 8 | 3 | 7 | 3 | 3 | 3 | 8 | 2 | 3 | 7 | 1 |   |
| <b>MALE</b>                       | 0 | 0 | 2 | 6 | 6 | 4 | 4 | 6 | 5 | 4 | 5 | 4 | 4 | 0 | 7 | 1 | 7 | 6 | 5 | 0 | 5 | 6 | 0 | 3 |   |
| <b>250ppmModZnExc</b>             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
|                                   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |
| <b>ANIMAL ID</b>                  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |   |
|                                   | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |   |
|                                   | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 0 |   |
|                                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

males  
(cont...)

Trachea +

**SPECIAL SENSES SYSTEM**

Eye +  
 Optic Nerve, Schwannoma Malignant

Harderian Gland +  
 Lymphoma Malignant

**URINARY SYSTEM**

Kidney +  
 Lymphoma Malignant  
 Renal Tubule, Adenoma

Urinary Bladder +  
 Lymphoma Malignant

**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

|   |             |   |   |   |   |   |   |   |   |   |
|---|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>250ppmModZnExc</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|   |             | 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 |
|   |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|   |             |   |   |   |   |   |   |   |   |   |

\* 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 |
| Leukemia Mononuclear                                    | 1  |
| Lymphoma Malignant                                      | 1  |
| Pheochromocytoma Malignant, Metastatic, Adrenal Medulla | 1  |
| Oral Mucosa   | 1  |
| Squamous Cell Carcinoma                                 | 1  |
| Pancreas  | 48 |
| Lymphoma Malignant                                      | 1  |
| Acinus, Adenoma   | 5  |
| Acinus, Adenoma, Multiple                               | 8  |

\* .. 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

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 |
|-----------------------|--|---|---|---|---|---|---|---|---|---|
|                       | <b>HARLAN SPRAGUE DAWLEY RATS MALE</b> | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| <b>250ppmModZnExc</b> | 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 |
|                       | 5                                      | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                       | 3                                      | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|                       | 1                                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>       |  |   |   |   |   |   |   |   |   |   |

|                      |           |
|----------------------|-----------|
| Salivary Glands      | <b>50</b> |
| Lymphoma Malignant   | <b>1</b>  |
| Stomach, Forestomach | <b>50</b> |
| Lymphoma Malignant   | <b>1</b>  |
| Stomach, Glandular   | <b>50</b> |
| Lymphoma Malignant   | <b>1</b>  |

**CARDIOVASCULAR SYSTEM**

|                                   |           |
|-----------------------------------|-----------|
| Blood Vessel                      | <b>50</b> |
| Lymphoma Malignant                | <b>1</b>  |
| Heart                             | <b>50</b> |
| Lymphoma Malignant                | <b>1</b>  |
| Endocardium, Schwannoma Malignant | <b>1</b>  |

**ENDOCRINE SYSTEM**

|                            |           |
|----------------------------|-----------|
| Adrenal Cortex             | <b>50</b> |
| Adrenal Medulla            | <b>50</b> |
| Pheochromocytoma Benign    | <b>10</b> |
| Pheochromocytoma Malignant | <b>1</b>  |
| Islets, Pancreatic         | <b>49</b> |
| Adenoma                    | <b>2</b>  |
| Carcinoma                  | <b>1</b>  |

\* .. 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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 |
|-----------------------|--|---|---|---|---|---|---|---|---|---|
|                       | <b>HARLAN SPRAGUE DAWLEY RATS MALE</b> | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| <b>250ppmModZnExc</b> | 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 |
|                       | 5                                      | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                       | 3                                      | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|                       | 1                                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>       |  |   |   |   |   |   |   |   |   |   |

|                        |           |
|------------------------|-----------|
| Parathyroid Gland      | <b>40</b> |
| Pituitary Gland        | <b>50</b> |
| Pars Distalis, Adenoma | <b>7</b>  |
| Thyroid Gland          | <b>50</b> |
| C-cell, Adenoma        | <b>2</b>  |
| C-cell, Carcinoma      | <b>2</b>  |

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

|                    |           |
|--------------------|-----------|
| Epididymis         | <b>50</b> |
| Preputial Gland    | <b>50</b> |
| Carcinoma          | <b>1</b>  |
| Lymphoma Malignant | <b>1</b>  |
| Prostate           | <b>50</b> |
| Lymphoma Malignant | <b>1</b>  |
| Seminal Vesicle    | <b>50</b> |
| Lymphoma Malignant | <b>1</b>  |
| Testes             | <b>50</b> |

**HEMATOPOIETIC 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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 |
|-----------------------|--|---|---|---|---|---|---|---|---|---|
|                       | <b>HARLAN SPRAGUE DAWLEY RATS MALE</b> | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| <b>250ppmModZnExc</b> | 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 |
|                       | 5                                      | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                       | 3                                      | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|                       | 1                                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>       |  |   |   |   |   |   |   |   |   |   |

|                                 |           |
|---------------------------------|-----------|
| Bone Marrow                     | <b>50</b> |
| Lymphoma Malignant              | <b>1</b>  |
| Lymph Node                      | <b>3</b>  |
| Lumbar, Lymphoma Malignant      | <b>1</b>  |
| Mediastinal, Lymphoma Malignant | <b>1</b>  |
| Lymph Node, Mandibular          | <b>50</b> |
| Lymphoma Malignant              | <b>1</b>  |
| Lymph Node, Mesenteric          | <b>50</b> |
| Lymphoma Malignant              | <b>1</b>  |
| Spleen                          | <b>48</b> |
| Leukemia Mononuclear            | <b>1</b>  |
| Lymphoma Malignant              | <b>1</b>  |
| Thymus                          | <b>47</b> |
| Lymphoma Malignant              | <b>3</b>  |

**INTEGUMENTARY SYSTEM**

|                              |           |
|------------------------------|-----------|
| Mammary Gland                | <b>48</b> |
| Fibroadenoma                 | <b>1</b>  |
| Fibroma                      | <b>1</b>  |
| Lymphoma Malignant           | <b>1</b>  |
| Skin                         | <b>50</b> |
| Basal Cell Adenoma           | <b>1</b>  |
| Subcutaneous Tissue, Fibroma | <b>1</b>  |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|   |             |   |   |   |   |   |   |   |   |   |
|---|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>250ppmModZnExc</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|   |             | 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 |
|   |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|   |             |   |   |   |   |   |   |   |   |   |

\* TOTALS

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

Lymphoma Malignant

1

Nose

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 |
|-----------------------|--|---|---|---|---|---|---|---|---|---|
|                       | <b>HARLAN SPRAGUE DAWLEY RATS MALE</b> | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| <b>250ppmModZnExc</b> | 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 |
|                       | 5                                      | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                       | 3                                      | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
|                       | 1                                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>       |  |   |   |   |   |   |   |   |   |   |

Trachea 50

**SPECIAL SENSES SYSTEM**

Eye 50  
 Optic Nerve, Schwannoma Malignant 1  
 Harderian Gland 50  
 Lymphoma Malignant 1

**URINARY SYSTEM**

Kidney 50  
 Lymphoma Malignant 1  
 Renal Tubule, Adenoma 1  
 Urinary Bladder 50  
 Lymphoma Malignant 1

**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  
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Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>500ppm ZnExc | DAY ON TEST | 0715 | 0362 | 0734 | 0774 | 0412 | 0734 | 0642 | 0774 | 0774 | 0465 | 0764 | 0774 | 0668 | 0773 | 0773 | 0773 | 0773 | 0541 | 0773 | 0773 | 0668 | 0526 | males<br>(cont...) |
|  | ANIMAL ID   | 0020 | 0022 | 0023 | 0024 | 0025 | 0026 | 0027 | 0028 | 0029 | 0030 | 0031 | 0032 | 0033 | 0034 | 0035 | 0036 | 0037 | 0038 | 0039 | 0040 | 0041 | 0042 |                    |

ALIMENTARY SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum                                   | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | A | + | + | + | + |
| Intestine Large, Colon                                   | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum                                  | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum                                | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum                                   | + | A | + | + | + | + | + | + | + | A | + | + | + | A | + | + | + | + | + | A | + | + | + |
| Intestine Small, Jejunum<br>Adenocarcinoma               | + | A | + | + | + | + | + | + | + | A | + | + | + | A | + | + | + | + | + | + | + | + | + |
| Liver<br>Leukemia Mononuclear                            | + | A | + | A | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + |
| Oral Mucosa  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pancreas<br>Acinus, Adenoma<br>Acinus, Adenoma, Multiple | + | A | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach                                     | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + |

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

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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

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

Stomach, Glandular

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

Tongue

Tooth

+ +

CARDIOVASCULAR SYSTEM

Blood Vessel

+ +

Heart

+ +

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Adrenal Medulla

Pheochromocytoma Benign

Pheochromocytoma Malignant

+  
X X

Islets, Pancreatic

Adenoma

Carcinoma

+ A +  
X

Parathyroid Gland

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

Pituitary Gland

Pars Distalis, Adenoma

+ + + + + + + + + + + + + + A + + + + + + + + + + + +  
X X

Thyroid 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Zinc Carbonate, Basic

CAS Number: 5263-02-5

Date Report Requested: 08/06/2015

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Lab: BAT

|  |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                    |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>500ppm ZnExc | DAY ON TEST | 07 | 03 | 07 | 07 | 07 | 04 | 07 | 06 | 07 | 07 | 04 | 06 | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 05 | 07 | 07 | 06 | 05 | males<br>(cont...) |
|  | ANIMAL ID   | 15 | 22 | 34 | 44 | 54 | 62 | 74 | 82 | 94 | 04 | 15 | 29 | 34 | 44 | 58 | 65 | 74 | 83 | 93 | 05 | 14 | 23 | 34 | 46 |                    |

C-cell, Adenoma  
C-cell, Carcinoma

X

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

|                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow                    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mandibular         | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric         | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen<br>Leukemia Mononuclear | + | A | + | + | + | + | + | + | + | + | + | + | + | 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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<br>MALE<br>500ppm ZnExc | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | ANIMAL ID | males<br>(cont...) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------|--------------------|
|  | 0<br>7<br>1<br>5      | 0<br>3<br>6<br>2      | 0<br>7<br>3<br>4      | 0<br>7<br>0<br>4      | 0<br>7<br>3<br>4      | 0<br>4<br>1<br>2      | 0<br>7<br>3<br>4      | 0<br>6<br>4<br>2      | 0<br>7<br>3<br>4      | 0<br>7<br>3<br>4      | 0<br>4<br>0<br>5      | 0<br>6<br>4<br>9      | 0<br>7<br>3<br>4      | 0<br>7<br>3<br>4      | 0<br>6<br>2<br>8      | 0<br>7<br>3<br>5      | 0<br>7<br>3<br>4      | 0<br>7<br>3<br>5      | 0<br>5<br>4<br>1      | 0<br>7<br>3<br>7      | 0<br>7<br>3<br>4      | 0<br>6<br>8<br>1      | 0<br>5<br>2<br>6      |                       |                       |           |                    |
|  | 0<br>0<br>2<br>0<br>1 | 0<br>0<br>0<br>0<br>2 | 0<br>0<br>0<br>0<br>3 | 0<br>0<br>0<br>0<br>4 | 0<br>0<br>0<br>0<br>5 | 0<br>0<br>0<br>0<br>6 | 0<br>0<br>0<br>0<br>7 | 0<br>0<br>0<br>0<br>8 | 0<br>0<br>0<br>0<br>9 | 0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>1 | 0<br>0<br>0<br>0<br>2 | 0<br>0<br>0<br>0<br>3 | 0<br>0<br>0<br>0<br>4 | 0<br>0<br>0<br>0<br>5 | 0<br>0<br>0<br>0<br>6 | 0<br>0<br>0<br>0<br>7 | 0<br>0<br>0<br>0<br>8 | 0<br>0<br>0<br>0<br>9 | 0<br>0<br>0<br>0<br>0 | 0<br>0<br>0<br>0<br>1 | 0<br>0<br>0<br>0<br>2 | 0<br>0<br>0<br>0<br>3 | 0<br>0<br>0<br>0<br>4 | 0<br>0<br>0<br>0<br>5 |           |                    |

Thymus + M + + +

**INTEGUMENTARY SYSTEM**

Mammary Gland +  
 Fibroadenoma +  
 Fibroma X  
 Skin +  
 Basal Cell Carcinoma  
 Keratoacanthoma  
 Squamous Cell Carcinoma  
 Subcutaneous Tissue, Lipoma

**MUSCULOSKELETAL SYSTEM**

Bone +  
 Femur, Osteosarcoma

**NERVOUS SYSTEM**

Brain +

**RESPIRATORY SYSTEM**

Lung +  
 Osteosarcoma, Metastatic, Bone  
 Nose + 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>MALE<br>500ppm ZnExc | DAY ON TEST           |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       |                       | males<br>(cont...) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------|
|  | 0<br>7<br>1<br>5      | 0<br>3<br>6<br>2      | 0<br>7<br>3<br>4      | 0<br>7<br>0<br>4      | 0<br>7<br>3<br>4      | 0<br>4<br>1<br>2      | 0<br>7<br>3<br>4      | 0<br>6<br>4<br>2      | 0<br>7<br>3<br>4      | 0<br>6<br>3<br>4      | 0<br>7<br>3<br>4      | 0<br>4<br>0<br>5      | 0<br>6<br>4<br>4      | 0<br>7<br>3<br>4      | 0<br>6<br>2<br>8      | 0<br>7<br>3<br>5      | 0<br>7<br>3<br>4      | 0<br>7<br>3<br>5      | 0<br>5<br>4<br>1      | 0<br>7<br>3<br>7      | 0<br>7<br>3<br>4      | 0<br>6<br>8<br>1      | 0<br>5<br>2<br>6      |                       |                       |                    |
| ANIMAL ID  | 0<br>0<br>2<br>0<br>1 | 0<br>0<br>2<br>0<br>2 | 0<br>0<br>2<br>0<br>3 | 0<br>0<br>2<br>0<br>4 | 0<br>0<br>2<br>0<br>5 | 0<br>0<br>2<br>0<br>6 | 0<br>0<br>2<br>0<br>7 | 0<br>0<br>2<br>0<br>8 | 0<br>0<br>2<br>0<br>9 | 0<br>0<br>2<br>0<br>0 | 0<br>0<br>2<br>0<br>1 | 0<br>0<br>2<br>0<br>2 | 0<br>0<br>2<br>0<br>3 | 0<br>0<br>2<br>0<br>4 | 0<br>0<br>2<br>0<br>5 | 0<br>0<br>2<br>0<br>6 | 0<br>0<br>2<br>0<br>7 | 0<br>0<br>2<br>0<br>8 | 0<br>0<br>2<br>0<br>9 | 0<br>0<br>2<br>0<br>0 | 0<br>0<br>2<br>0<br>1 | 0<br>0<br>2<br>0<br>2 | 0<br>0<br>2<br>0<br>3 | 0<br>0<br>2<br>0<br>4 | 0<br>0<br>2<br>0<br>5 |                    |

Trachea +

SPECIAL SENSES SYSTEM

Eye + M + + + +

Harderian Gland + M + + + +

URINARY SYSTEM

Kidney +  
Renal Tubule, Adenoma X

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Lab: BAT

|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                    |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>500ppm ZnExc | DAY ON TEST | 06656 | 06649 | 06597 | 06431 | 06691 | 06718 | 06665 | 06774 | 06590 | 06743 | 06770 | 06669 | 06775 | 06777 | 06773 | 06771 | 06593 | 06715 | 06375 | 06730 | 06773 | 06775 | males<br>(cont...) |
|  | ANIMAL ID   | 00226 | 00022 | 00022 | 00022 | 00022 | 00023 | 00033 | 00033 | 00033 | 00033 | 00033 | 00044 | 00044 | 00044 | 00044 | 00044 | 00044 | 00055 | 00066 | 00077 | 00088 | 00099 |                    |
|  |             | 678   | 79    | 80    | 91    | 02    | 13    | 23    | 33    | 43    | 53    | 63    | 73    | 83    | 93    | 04    | 14    | 24    | 34    | 44    | 54    | 64    | 74    |                    |

ALIMENTARY SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum                                   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon                                   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum                                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum                                   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| Intestine Small, Jejunum<br>Adenocarcinoma               | + | + | + | + | + | + | X | + | + | + | + | X | + | + | + | + | + | X | + | + | + | + | + |   |
| Liver<br>Leukemia Mononuclear                            | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + | A | + |
| Oral Mucosa  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | + |   |
| Pancreas<br>Acinus, Adenoma<br>Acinus, Adenoma, Multiple | + | + | + | + | + | + | + | + | + | + | + | X | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands  | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + |
| 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|   |             |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|---|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>500ppm ZnExc</b> | DAY ON TEST | 0665 | 0664 | 0659 | 0663 | 0641 | 0669 | 0671 | 0666 | 0677 | 0656 | 0676 | 0677 | 0666 | 0677 | 0677 | 0677 | 0677 | 0655 | 0671 | 0635 | 0673 | 0677 | 0677 |
|   | ANIMAL ID   | 0022 | 0022 | 0022 | 0022 | 0023 | 0023 | 0023 | 0023 | 0023 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 | 0022 |
|   |             | 6789 | 79   | 87   | 90   | 01   | 12   | 23   | 34   | 45   | 56   | 67   | 78   | 89   | 90   | 01   | 12   | 23   | 34   | 45   | 56   | 67   | 78   | 89   |

males (cont...)

Stomach, Glandular

+ +

Tongue

+

Tooth

CARDIOVASCULAR SYSTEM

Blood Vessel

+ +

Heart

+ +

ENDOCRINE SYSTEM

Adrenal Cortex

+ +

Adrenal Medulla

+ +

Pheochromocytoma Benign

Pheochromocytoma Malignant

X

X

Islets, Pancreatic

+ +

Adenoma

X

X

Carcinoma

Parathyroid Gland

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

Pituitary Gland

+ +

Pars Distalis, Adenoma

X

X

Thyroid Gland

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

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
 + .. Tissue examined microscopically  
 X .. Lesion present  
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|   |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>500ppm ZnExc</b> | DAY ON TEST | 06656 | 06649 | 06597 | 06431 | 06691 | 06718 | 06665 | 06774 | 06590 | 06749 | 06774 | 06669 | 06775 | 06777 | 06777 | 06777 | 06777 | 06777 | 06593 | 06715 | 06730 | 06770 | 06777 | 06777 |
|   | ANIMAL ID   | 00226 | 00077 | 00008 | 00009 | 00000 | 00002 | 00003 | 00001 | 00002 | 00003 | 00003 | 00003 | 00003 | 00004 | 00004 | 00004 | 00004 | 00004 | 00004 | 00005 | 00006 | 00007 | 00008 | 00008 |

males  
(cont...)

C-cell, Adenoma  
C-cell, Carcinoma

X X

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

|                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow                    | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mandibular         | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen<br>Leukemia Mononuclear | + | + | + | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | 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

| 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 | 6 | 6 | 5 | 6 | 4 | 6 | 7 | 6 | 7 | 5 | 6 | 7 | 7 | 6 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 3 | 7 |                    |
| MALE                       | 6 | 4 | 9 | 3 | 1 | 9 | 1 | 4 | 3 | 9 | 6 | 2 | 0 | 6 | 3 | 0 | 3 | 3 | 1 | 9 | 1 | 5 | 3 |                    |
| 500ppm ZnExc               | 5 | 9 | 7 | 7 | 8 | 1 | 8 | 5 | 4 | 9 | 0 | 9 | 4 | 9 | 5 | 7 | 7 | 5 | 3 | 7 | 5 | 5 | 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 | males<br>(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 | 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 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 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                  |

Thymus + + + + + + + + + + + + + + + + + M + + + + +

**INTEGUMENTARY SYSTEM**

Mammary Gland + + + + + + + + + + + + + + + + + + + M + +  
 Fibroadenoma  
 Fibroma

Skin +  
 Basal Cell Carcinoma X  
 Keratoacanthoma X  
 Squamous Cell Carcinoma X  
 Subcutaneous Tissue, Lipoma X

**MUSCULOSKELETAL SYSTEM**

Bone +  
 Femur, Osteosarcoma X

**NERVOUS SYSTEM**

Brain +

**RESPIRATORY SYSTEM**

Lung +  
 Osteosarcoma, Metastatic, Bone X

Nose +

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

|   |             |   |   |   |   |   |   |   |   |   |  |
|---|-------------|---|---|---|---|---|---|---|---|---|--|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>MALE<br/>500ppm ZnExc</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |  |
|   |             | 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 |  |
|   |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |  |
|   |             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |  |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| <b>* TOTALS</b>   |             |   |   |   |   |   |   |   |   |   |  |

**ALIMENTARY SYSTEM**

|                           |           |
|---------------------------|-----------|
| Esophagus                 | <b>50</b> |
| Intestine Large, Cecum    | <b>47</b> |
| Intestine Large, Colon    | <b>48</b> |
| Intestine Large, Rectum   | <b>48</b> |
| Intestine Small, Duodenum | <b>48</b> |
| Intestine Small, Ileum    | <b>45</b> |
| Intestine Small, Jejunum  | <b>47</b> |
| Adenocarcinoma            | <b>3</b>  |
| Liver                     | <b>46</b> |
| Leukemia Mononuclear      | <b>1</b>  |
| Oral Mucosa               | <b>1</b>  |
| Pancreas                  | <b>48</b> |
| Acinus, Adenoma           | <b>6</b>  |
| Acinus, Adenoma, Multiple | <b>4</b>  |
| Salivary Glands           | <b>49</b> |
| Stomach, Forestomach      | <b>49</b> |

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

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

|                    |           |
|--------------------|-----------|
| Stomach, Glandular | <b>49</b> |
| Tongue             | <b>1</b>  |
| Tooth              | <b>2</b>  |

**CARDIOVASCULAR SYSTEM**

|              |           |
|--------------|-----------|
| Blood Vessel | <b>50</b> |
| Heart        | <b>50</b> |

**ENDOCRINE SYSTEM**

|                            |           |
|----------------------------|-----------|
| Adrenal Cortex             | <b>50</b> |
| Adrenal Medulla            | <b>50</b> |
| Pheochromocytoma Benign    | <b>3</b>  |
| Pheochromocytoma Malignant | <b>3</b>  |
| Islets, Pancreatic         | <b>49</b> |
| Adenoma                    | <b>2</b>  |
| Carcinoma                  | <b>1</b>  |
| Parathyroid Gland          | <b>42</b> |
| Pituitary Gland            | <b>49</b> |
| Pars Distalis, Adenoma     | <b>6</b>  |
| Thyroid Gland              | <b>49</b> |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|   |             |   |   |   |   |   |   |   |   |   |
|---|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>MALE</b><br><b>500ppm ZnExc</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|   |             | 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 |
|   |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|   |             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|   |             |   |   |   |   |   |   |   |   |   |

\* TOTALS

C-cell, Adenoma

2

C-cell, Carcinoma

1

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             | 2  |
| Lymph Node, Mandibular | 48 |
| Lymph Node, Mesenteric | 49 |
| Spleen                 | 45 |
| Leukemia Mononuclear   | 1  |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
+ .. Tissue examined microscopically  
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|  |             |   |   |   |   |   |   |   |   |   |  |
|--|-------------|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS<br>MALE<br>500ppm ZnExc | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |  |
|  |             | 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 |  |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |  |
|  |             | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |  |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| <b>* TOTALS</b>                                    |             |   |   |   |   |   |   |   |   |   |  |

Thymus 48

INTEGUMENTARY SYSTEM

Mammary Gland 49  
 Fibroadenoma 1  
 Fibroma 1

Skin 50  
 Basal Cell Carcinoma 1  
 Keratoacanthoma 1  
 Squamous Cell Carcinoma 1  
 Subcutaneous Tissue, Lipoma 1

MUSCULOSKELETAL SYSTEM

Bone 50  
 Femur, Osteosarcoma 1

NERVOUS SYSTEM

Brain 50

RESPIRATORY SYSTEM

Lung 50  
 Osteosarcoma, Metastatic, Bone 1

Nose 49

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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 X .. Lesion present  
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Lab: BAT

| DAY ON TEST                       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ANIMAL ID |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|-----------|--|
|                                   | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |           |  |
| <b>HARLAN SPRAGUE DAWLEY RATS</b> | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |           |  |
| <b>MALE</b>                       | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |           |  |
| <b>500ppm ZnExc</b>               | 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 |           |  |
|                                   | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |           |  |
|                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |           |  |
| <b>* TOTALS</b>                   |   |   |   |   |   |   |   |   |   |   |           |  |
| Trachea                           |   |   |   |   |   |   |   |   |   |   | <b>50</b> |  |
| <b>SPECIAL SENSES SYSTEM</b>      |   |   |   |   |   |   |   |   |   |   |           |  |
| Eye                               |   |   |   |   |   |   |   |   |   |   | <b>49</b> |  |
| Harderian Gland                   |   |   |   |   |   |   |   |   |   |   | <b>49</b> |  |
| <b>URINARY SYSTEM</b>             |   |   |   |   |   |   |   |   |   |   |           |  |
| Kidney                            |   |   |   |   |   |   |   |   |   |   | <b>50</b> |  |
| Renal Tubule, Adenoma             |   |   |   |   |   |   |   |   |   |   | <b>1</b>  |  |
| Urinary Bladder                   |   |   |   |   |   |   |   |   |   |   | <b>49</b> |  |
| <b>SYSTEMIC LESIONS</b>           |   |   |   |   |   |   |   |   |   |   |           |  |
| Multiple Organ                    |   |   |   |   |   |   |   |   |   |   | <b>50</b> |  |
| Leukemia Mononuclear              |   |   |   |   |   |   |   |   |   |   | <b>1</b>  |  |

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

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
+ .. Tissue examined microscopically  
X .. Lesion present  
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First Dose M/F: 09/03/09 / 09/04/09

Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>Control (38ppm) | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | ANIMAL ID | females<br>(cont...) |
|---|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|----------------------|
|   | 0677        | 0677  | 0726  | 0540  | 0777  | 0777  | 0777  | 0777  | 0622  | 0727  | 0664  | 0747  | 0447  | 0747  | 0447  | 0722  | 0722  | 0722  | 0722  | 0568  | 0635  | 0725  | 0777  |       |           |                      |
|   | 00351       | 00352 | 00353 | 00354 | 00355 | 00356 | 00357 | 00358 | 00359 | 00360 | 00361 | 00362 | 00363 | 00364 | 00365 | 00366 | 00367 | 00368 | 00369 | 00370 | 00371 | 00372 | 00373 | 00374 | 00375     |                      |

ALIMENTARY SYSTEM

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

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|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b><br><b>Control (38ppm)</b> | DAY ON TEST | 0677  | 0677  | 0724  | 0577  | 0777  | 0777  | 0777  | 0627  | 0677  | 0647  | 0747  | 0474  | 0747  | 0477  | 0777  | 0777  | 0777  | 0777  | 0567  | 0667  | 0777  | 0777  |       |       |
|  | ANIMAL ID   | 00351 | 00352 | 00353 | 00354 | 00355 | 00356 | 00357 | 00358 | 00359 | 00360 | 00361 | 00362 | 00363 | 00364 | 00365 | 00366 | 00367 | 00368 | 00369 | 00370 | 00371 | 00372 | 00373 | 00374 |

females (cont...)

NONE

GENITAL SYSTEM

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary          | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Leiomyoma      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Polyp Stromal  | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

HEMATOPOIETIC SYSTEM

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Histiocytic Sarcoma    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Leukemia Mononuclear   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Spleen                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Thymus                 | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + |

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+ .. Tissue 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 |
|--|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>FEMALE</b> | <b>Control (38ppm)</b> | 6 | 6 | 7 | 5 | 7 | 7 | 7 | 7 | 6 | 2 | 7 | 6 | 4 | 7 | 4 | 7 | 7 | 7 | 7 | 5 | 6 | 7 | 7 | 7 | 7 | 7 |
|  |                        | 7 | 7 | 2 | 4 | 2 | 2 | 2 | 2 | 5 | 5 | 2 | 9 | 6 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 6 | 3 | 2 | 2 | 2 | 2 |
|  |                        | 7 | 6 | 6 | 0 | 7 | 7 | 7 | 7 | 6 | 3 | 5 | 0 | 9 | 6 | 5 | 6 | 5 | 5 | 5 | 5 | 8 | 5 | 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 |   |
|  |                        | 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 |   |
|  |                        | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 |   |   |
|  |                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 |   |   |
|  |                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

females  
(cont...)

SPECIAL SENSES SYSTEM

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye                                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland<br>Leukemia Mononuclear | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

URINARY SYSTEM

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

SYSTEMIC LESIONS

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multiple Organ<br>Histiocytic Sarcoma<br>Leukemia Mononuclear | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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|--|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b><br><b>Control (38ppm)</b> | DAY ON TEST       | 0584  | 0523  | 0726  | 0558  | 0554  | 0600  | 0700  | 0707  | 0662  | 0766  | 0767  | 0662  | 0666  | 0772  | 0777  | 0666  | 0667  | 0772  | 0777  | 0777  | 0559  | 0772  | 0557  | 0366  | 0368  | 0661  |       |
|  | ANIMAL ID         | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 | 00399 | 00400 | 00401 | 00402 |
|  | 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               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Leukemia Mononuclear      |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pancreas                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Acinus, Adenoma           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Salivary Glands           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular        | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Tooth                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

\* .. 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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 |                          |
|--|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------|
| <b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b> |                        | 5 | 5 | 7 | 5 | 5 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 5 | 3 | 6 |                          |
|  |                        | 8 | 2 | 2 | 8 | 4 | 0 | 0 | 2 | 7 | 2 | 0 | 2 | 2 | 9 | 2 | 2 | 2 | 2 | 2 | 0 | 9 | 2 | 7 | 6 | 8 |                          |
|  | <b>Control (38ppm)</b> | 4 | 3 | 6 | 2 | 9 | 1 | 4 | 6 | 6 | 6 | 9 | 7 | 7 | 2 | 1 | 7 | 7 | 7 | 7 | 0 | 3 | 6 | 5 | 2 | 1 |                          |
|  | 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 |                          |
|  |                        | 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 |                          |
|  |                        | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |                          |
|  |                        | 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 |                          |
|  |                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>females (cont...)</b> |

**CARDIOVASCULAR SYSTEM**

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**ENDOCRINE SYSTEM**

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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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

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

NONE

**GENITAL SYSTEM**

Clitoral Gland

Ovary

Uterus

Adenocarcinoma

Leiomyoma

Polyp Stromal

Bone Marrow

Leukemia Mononuclear

Lymph Node

Lymph Node, Mandibular

Lymph Node, Mesenteric

Histiocytic Sarcoma

Leukemia Mononuclear

Spleen

Leukemia Mononuclear

Thymus

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + |
|  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
|  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + |

\* .. 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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P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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 | 0                        |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------------------------|
| <b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b> | 5 | 5 | 7 | 5 | 5 | 6 | 7 | 7 | 6 | 7 | 6 | 7 | 7 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 5 | 7 | 5 | 3 | 6 | 6 |                          |
| <b>Control (38ppm)</b>                   | 8 | 2 | 2 | 8 | 4 | 0 | 0 | 2 | 7 | 2 | 0 | 2 | 2 | 9 | 2 | 2 | 2 | 2 | 2 | 0 | 9 | 2 | 7 | 6 | 8 | 1 |                          |
| <b>ANIMAL ID</b>                         | 4 | 3 | 6 | 2 | 9 | 1 | 4 | 6 | 6 | 6 | 9 | 7 | 7 | 2 | 1 | 7 | 7 | 7 | 7 | 0 | 3 | 6 | 5 | 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 | 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 |                          |
|  | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 | <b>females (cont...)</b> |
|  | 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 |   |                          |

**INTEGUMENTARY SYSTEM**

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

**MUSCULOSKELETAL SYSTEM**

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

**NERVOUS SYSTEM**

|                                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brain                                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear                  |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Cerebrum, Oligodendroglioma Malignant | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**RESPIRATORY SYSTEM**

|                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung                                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Carcinoma, Metastatic, Thyroid Gland |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |
| Leukemia Mononuclear                 |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Nose                                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Trachea                              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

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

Experiment Number: 20403 - 01

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P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>Control (38ppm) | DAY ON TEST | 0584  | 0523  | 0726  | 0582  | 0554  | 0661  | 0774  | 0776  | 0626  | 0676  | 0779  | 0777  | 0662  | 0661  | 0777  | 0777  | 0777  | 0777  | 0593  | 0726  | 0575  | 0362  | 0681  | females<br>(cont...) |
|   | ANIMAL ID   | 00376 | 00377 | 00378 | 00379 | 00380 | 00381 | 00382 | 00383 | 00384 | 00385 | 00386 | 00387 | 00388 | 00389 | 00390 | 00391 | 00392 | 00393 | 00394 | 00395 | 00396 | 00397 | 00398 |                      |
|   |             | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |                      |

SPECIAL SENSES SYSTEM

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eye                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Harderian Gland      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

URINARY SYSTEM

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

SYSTEMIC LESIONS

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

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|  |             |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>FEMALE<br/>Control (38ppm)</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |             | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |             | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  |             | 0 | 1 | 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 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |             |   |   |   |   |   |   |   |   |   |

\* 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               | 1  |
| Leukemia Mononuclear      | 1  |
| Pancreas                  | 50 |
| Acinus, Adenoma           | 1  |
| Salivary Glands           | 50 |
| Stomach, Forestomach      | 50 |
| Stomach, Glandular        | 50 |
| Tooth                     | 1  |

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|                 |   |   |   |   |   |   |   |   |   |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|                 | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|                 | 0 | 1 | 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 |
|                 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
|                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b> |   |   |   |   |   |   |   |   |   |   |

**CARDIOVASCULAR SYSTEM**

|                      |           |
|----------------------|-----------|
| Blood Vessel         | <b>50</b> |
| Heart                | <b>50</b> |
| Leukemia Mononuclear | <b>1</b>  |

**ENDOCRINE SYSTEM**

|                            |           |
|----------------------------|-----------|
| Adrenal Cortex             | <b>50</b> |
| Leukemia Mononuclear       | <b>1</b>  |
| Adrenal Medulla            | <b>50</b> |
| Pheochromocytoma Malignant | <b>1</b>  |
| Islets, Pancreatic         | <b>50</b> |
| Parathyroid Gland          | <b>42</b> |
| Pituitary Gland            | <b>50</b> |
| Leukemia Mononuclear       | <b>1</b>  |
| Pars Distalis, Adenoma     | <b>11</b> |
| Pars Distalis, Carcinoma   | <b>1</b>  |
| Thyroid Gland              | <b>50</b> |
| C-cell, Adenoma            | <b>1</b>  |
| C-cell, Carcinoma          | <b>1</b>  |

**GENERAL BODY SYSTEM**

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |                 |
|--|-------------|---|---|---|---|---|---|---|---|---|-----------------|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>FEMALE<br/>Control (38ppm)</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                 |
|  |             | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |                 |
|  |             | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |                 |
|  |             | 0 | 1 | 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 |                 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |                 |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |                 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                 |
|  |             |   |   |   |   |   |   |   |   |   | <b>* TOTALS</b> |

NONE

**GENITAL SYSTEM**

|                |           |
|----------------|-----------|
| Clitoral Gland | <b>49</b> |
| Ovary          | <b>50</b> |
| Uterus         | <b>50</b> |
| Adenocarcinoma | <b>1</b>  |
| Leiomyoma      | <b>1</b>  |
| Polyp Stromal  | <b>3</b>  |

**HEMATOPOIETIC SYSTEM**

|                        |           |
|------------------------|-----------|
| Bone Marrow            | <b>50</b> |
| Leukemia Mononuclear   | <b>1</b>  |
| Lymph Node             | <b>1</b>  |
| Lymph Node, Mandibular | <b>50</b> |
| Lymph Node, Mesenteric | <b>50</b> |
| Histiocytic Sarcoma    | <b>1</b>  |
| Leukemia Mononuclear   | <b>1</b>  |
| Spleen                 | <b>50</b> |
| Leukemia Mononuclear   | <b>1</b>  |
| Thymus                 | <b>48</b> |

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|                 |   |   |   |   |   |   |   |   |   |   |
|-----------------|---|---|---|---|---|---|---|---|---|---|
| DAY ON TEST     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|                 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|                 | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|                 | 0 | 1 | 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 |
|                 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|                 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
|                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b> |   |   |   |   |   |   |   |   |   |   |

**INTEGUMENTARY SYSTEM**

|                          |           |
|--------------------------|-----------|
| Mammary Gland            | <b>50</b> |
| Adenocarcinoma           | <b>4</b>  |
| Adenoma                  | <b>3</b>  |
| Fibroadenoma             | <b>23</b> |
| Fibroadenoma, Multiple   | <b>6</b>  |
| Skin                     | <b>50</b> |
| Sebaceous Gland, Adenoma | <b>1</b>  |

**MUSCULOSKELETAL SYSTEM**

|      |           |
|------|-----------|
| Bone | <b>50</b> |
|------|-----------|

**NERVOUS SYSTEM**

|                                       |           |
|---------------------------------------|-----------|
| Brain                                 | <b>50</b> |
| Leukemia Mononuclear                  | <b>1</b>  |
| Cerebrum, Oligodendroglioma Malignant | <b>1</b>  |

**RESPIRATORY SYSTEM**

|                                      |           |
|--------------------------------------|-----------|
| Lung                                 | <b>50</b> |
| Carcinoma, Metastatic, Thyroid Gland | <b>1</b>  |
| Leukemia Mononuclear                 | <b>1</b>  |
| Nose                                 | <b>50</b> |
| Trachea                              | <b>50</b> |

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|---|-------------|---|---|---|---|---|---|---|---|---|--|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>Control (38ppm) | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|   |             | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |
|   |             | 7 | 9 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |  |
|   |             | 0 | 1 | 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 |   |  |
|   |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |   |  |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |   |  |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| <b>* TOTALS</b>   |             |   |   |   |   |   |   |   |   |   |  |

**SPECIAL SENSES SYSTEM**

|                      |           |
|----------------------|-----------|
| Eye                  | <b>50</b> |
| Harderian Gland      | <b>50</b> |
| Leukemia Mononuclear | <b>1</b>  |

**URINARY SYSTEM**

|                 |           |
|-----------------|-----------|
| Kidney          | <b>50</b> |
| Urinary Bladder | <b>50</b> |

**SYSTEMIC LESIONS**

|                      |           |
|----------------------|-----------|
| Multiple Organ       | <b>50</b> |
| Histiocytic Sarcoma  | <b>1</b>  |
| Leukemia Mononuclear | <b>1</b>  |

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| DAY ON TEST | HARLAN SPRAGUE DAWLEY RATS FEMALE |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | ANIMAL ID | females (cont...) |
|-------------|-----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|-------------------|
|             | 04                                | 06 | 05 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 03 | 03 | 07 | 07 | 07 |           |                   |
| 59          | 01                                | 01 | 03 | 02 | 02 | 02 | 09 | 04 | 02 | 02 | 01 | 02 | 02 | 02 | 00 | 01 | 09 | 00 | 05 | 05 | 03 | 05 | 02 | 02 |           |                   |
| 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 |           |                   |
| 25          | 22                                | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |           |                   |
| 51          | 52                                | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |           |                   |

ALIMENTARY SYSTEM

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

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 04 | 06 | 05 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 03 | 03 | 07 | 07 | 07 |
|  | ANIMAL ID   | 59 | 01 | 13 | 26 | 27 | 27 | 99 | 48 | 27 | 27 | 18 | 27 | 25 | 25 | 00 | 19 | 90 | 25 | 25 | 33 | 50 | 66 | 26 | 25 |
|  |             | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
|  |             | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
|  |             | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 00 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 01 | 02 | 03 | 04 | 05 |

females (cont...)

Tooth +

CARDIOVASCULAR SYSTEM

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear             | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Myocardium, Schwannoma Malignant | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

ENDOCRINE SYSTEM

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>3.5ppm SevZnDef | DAY ON TEST | 04 | 06 | 05 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 03 | 03 | 07 | 07 | 07 | females<br>(cont...) |
|   | ANIMAL ID   | 59 | 01 | 03 | 02 | 02 | 02 | 09 | 04 | 02 | 02 | 01 | 02 | 02 | 02 | 05 | 00 | 01 | 09 | 02 | 05 | 02 | 05 | 02 | 05 | 02 |                      |
|   |             | 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 |                      |

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow            | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymphoma Malignant     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + |
| Leukemia Mononuclear   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymphoma Malignant     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Spleen                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 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

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Species/Strain: RATS/HSD

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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...) |    |    |
|-------------|-----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|-------------------|----|----|
|             | 04                                | 06 | 05 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | 07 | 05 | 06 | 07 | 03 |           |                   | 03 | 07 |
| 59          | 01                                | 03 | 02 | 02 | 02 | 09 | 04 | 02 | 02 | 01 | 02 | 02 | 02 | 05 | 05 | 00 | 01 | 09 | 02 | 02 | 05        | 05                | 02 | 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 |
| 25          | 22                                | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22        | 22                | 22 | 22 |
| 51          | 52                                | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72        | 73                | 74 | 75 |

Thymus  
Lymphoma Malignant

+  
X

**INTEGUMENTARY SYSTEM**

Mammary Gland  
Adenocarcinoma  
Adenoma  
Fibroadenoma  
Fibroadenoma, Multiple

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

Skin  
Subcutaneous Tissue, Schwannoma Malignant

+  
X

**MUSCULOSKELETAL SYSTEM**

Bone

+ +

**NERVOUS SYSTEM**

Brain  
Leukemia Mononuclear

+  
X

**RESPIRATORY SYSTEM**

Lung  
Cystic Keratinizing Epithelioma  
Leukemia Mononuclear

+  
X

Nose

+ +

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

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>3.5ppm SevZnDef | DAY ON TEST |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | ANIMAL ID | females<br>(cont...) |
|---|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------------|
|   | 04          | 06 | 05 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | 07 | 05 | 06 | 07 | 07 | 03 | 03 | 07 | 07 |           |                      |
|   | 59          | 01 | 13 | 26 | 27 | 27 | 99 | 48 | 27 | 27 | 18 | 27 | 25 | 25 | 25 | 09 | 09 | 05 | 25 | 25 | 23 | 50 | 26 | 26 | 25        |                      |
|   | 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        |                      |
|   | 22          | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22        |                      |
|   | 51          | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75        |                      |

Trachea +

SPECIAL SENSES SYSTEM

Eye +

Harderian Gland +

URINARY SYSTEM

Kidney +

Leukemia Mononuclear X  
Lymphoma Malignant X

Urinary Bladder +

SYSTEMIC LESIONS

Multiple Organ +

Leukemia Mononuclear X  
Lymphoma Malignant X

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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X .. Lesion present  
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Lab: BAT

| DAY ON TEST | ANIMAL ID |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | females (cont...) |      |      |      |      |
|-------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------------------|------|------|------|------|
|             | 0725      | 0649 | 0725 | 0729 | 0729 | 0729 | 0729 | 0729 | 0729 | 0633 | 0726 | 0726 | 0726 | 0726 | 0726 | 0728 | 0728 | 0728 | 0728 | 0728 | 0659 | 0720 | 0720 | 0721 |                   | 0723 | 0726 | 0726 | 0725 |

ALIMENTARY SYSTEM

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus   | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum                              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon                              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum                             | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum                           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum                              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver<br>Leukemia Mononuclear<br>Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pancreas<br>Leukemia Mononuclear                    | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands                                     | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Forestomach<br>Lymphoma Malignant          | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Stomach, Glandular                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
+ .. Tissue examined microscopically  
X .. Lesion present  
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|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                      |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 075   | 064   | 072   | 072   | 072   | 071   | 063   | 072   | 072   | 072   | 072   | 072   | 072   | 072   | 072   | 067   | 072   | 043   | 072   | 072   | 072   | 065   | females<br>(cont...) |
|  | ANIMAL ID   | 00276 | 00277 | 00278 | 00279 | 00280 | 00281 | 00282 | 00283 | 00284 | 00285 | 00286 | 00287 | 00288 | 00289 | 00290 | 00291 | 00292 | 00293 | 00294 | 00295 | 00296 | 00297 |                      |

Tooth

CARDIOVASCULAR SYSTEM

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel                     | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart                            | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Leukemia Mononuclear             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Myocardium, Schwannoma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

ENDOCRINE SYSTEM

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

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  
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Lab: BAT

|  |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <p><b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b><br/><b>3.5ppm SevZnDef</b></p> | DAY ON TEST | 075 | 064 | 072 | 072 | 072 | 071 | 063 | 073 | 076 | 076 | 077 | 077 | 077 | 078 | 078 | 078 | 078 | 065 | 072 | 074 | 077 | 077 | 065 | 076 |
|  | ANIMAL ID   | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 | 002 |
|  |             | 76  | 77  | 78  | 79  | 80  | 81  | 82  | 83  | 84  | 85  | 86  | 87  | 88  | 89  | 00  | 01  | 02  | 03  | 04  | 05  | 06  | 07  | 08  | 09  |

females  
(cont...)

NONE

**GENITAL SYSTEM**

Clitoral Gland

+ +

Ovary  
Lymphoma Malignant

+ +

Uterus  
Leiomyoma  
Polyp Stromal  
Schwannoma Malignant

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

**HEMATOPOIETIC SYSTEM**

Bone Marrow  
Lymphoma Malignant

+ +

Lymph Node, Mandibular  
Leukemia Mononuclear  
Lymphoma Malignant

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

Lymph Node, Mesenteric  
Leukemia Mononuclear  
Lymphoma Malignant

+ +

Spleen  
Leukemia Mononuclear  
Lymphoma Malignant

+ +

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
 + .. Tissue examined microscopically  
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|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                      |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| <b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 075   | 069   | 075   | 077   | 079   | 079   | 074   | 063   | 076   | 076   | 076   | 078   | 078   | 078   | 078   | 075   | 075   | 069   | 075   | 043   | 072   | 076   | 075   | 075   | 069   | females<br>(cont...) |
|  | ANIMAL ID   | 00276 | 00278 | 00289 | 00280 | 00281 | 00282 | 00283 | 00284 | 00285 | 00286 | 00287 | 00288 | 00289 | 00290 | 00291 | 00292 | 00293 | 00294 | 00295 | 00296 | 00297 | 00298 | 00299 | 00300 | 00301 |                      |

Thymus  
Lymphoma Malignant

+ +

INTEGUMENTARY SYSTEM

Mammary Gland  
Adenocarcinoma  
Adenoma  
Fibroadenoma  
Fibroadenoma, Multiple

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

Skin  
Subcutaneous Tissue, Schwannoma Malignant

+ +

MUSCULOSKELETAL SYSTEM

Bone

+ +

NERVOUS SYSTEM

Brain  
Leukemia Mononuclear

+ +

RESPIRATORY SYSTEM

Lung  
Cystic Keratinizing Epithelioma  
Leukemia Mononuclear

+  
X

Nose

+ +

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>HARLAN SPRAGUE DAWLEY RATS FEMALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 075   | 069   | 075   | 079   | 079   | 079   | 074   | 063   | 076   | 076   | 076   | 078   | 078   | 078   | 078   | 075   | 075   | 069   | 075   | 043   | 072   | 076   | 075   | 075   | 069   |
|  | ANIMAL ID   | 00276 | 00078 | 00089 | 00080 | 00081 | 00082 | 00083 | 00084 | 00085 | 00086 | 00087 | 00088 | 00089 | 00090 | 00091 | 00092 | 00093 | 00094 | 00095 | 00096 | 00097 | 00098 | 00099 | 00100 | 00101 |
|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

females (cont...)

Trachea +

SPECIAL SENSES SYSTEM

Eye +

Harderian Gland +

URINARY SYSTEM

Kidney +

Leukemia Mononuclear  
Lymphoma Malignant

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

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Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |  |
|--|-------------|---|---|---|---|---|---|---|---|---|--|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |  |
|  |             | 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 |   |  |
|  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |   |  |
|  | 5           | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |   |  |
|  | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |  |
| <b>* TOTALS</b>  |             |   |   |   |   |   |   |   |   |   |  |

**ALIMENTARY SYSTEM**

|                           |           |
|---------------------------|-----------|
| Esophagus                 | <b>49</b> |
| Intestine Large, Cecum    | <b>49</b> |
| Intestine Large, Colon    | <b>49</b> |
| Intestine Large, Rectum   | <b>50</b> |
| Intestine Small, Duodenum | <b>49</b> |
| Intestine Small, Ileum    | <b>49</b> |
| Intestine Small, Jejunum  | <b>49</b> |
| Liver                     | <b>50</b> |
| Leukemia Mononuclear      | <b>1</b>  |
| Lymphoma Malignant        | <b>1</b>  |
| Pancreas                  | <b>48</b> |
| Leukemia Mononuclear      | <b>1</b>  |
| Salivary Glands           | <b>49</b> |
| Stomach, Forestomach      | <b>50</b> |
| Lymphoma Malignant        | <b>1</b>  |
| Stomach, Glandular        | <b>50</b> |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|  |             |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  |             | 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 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |             |   |   |   |   |   |   |   |   |   |

\* TOTALS

Tooth 1

**CARDIOVASCULAR SYSTEM**

Blood Vessel 50

Heart 50

  Leukemia Mononuclear 1

  Myocardium, Schwannoma Malignant 1

**ENDOCRINE SYSTEM**

Adrenal Cortex 50

  Leukemia Mononuclear 1

  Lymphoma Malignant 1

Adrenal Medulla 50

Islets, Pancreatic 50

Parathyroid Gland 43

Pituitary Gland 50

  Pars Distalis, Adenoma 13

Thyroid Gland 49

  C-cell, Adenoma 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>3.5ppm SevZnDef | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |                 |
|   | ANIMAL ID   | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |                 |
|   |             | 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 |                 |
|   |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |                 |
|   |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |                 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                 |
|   |             |   |   |   |   |   |   |   |   |   | <b>* TOTALS</b> |

NONE

GENITAL SYSTEM

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

HEMATOPOIETIC SYSTEM

|                        |    |
|------------------------|----|
| Bone Marrow            | 49 |
| Lymphoma Malignant     | 1  |
| Lymph Node, Mandibular | 49 |
| Leukemia Mononuclear   | 1  |
| Lymphoma Malignant     | 1  |
| Lymph Node, Mesenteric | 49 |
| Leukemia Mononuclear   | 1  |
| Lymphoma Malignant     | 1  |
| Spleen                 | 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

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|  |             |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  |             | 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 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |             |   |   |   |   |   |   |   |   |   |

\* TOTALS

|                    |    |
|--------------------|----|
| Thymus             | 50 |
| Lymphoma Malignant | 1  |

**INTEGUMENTARY SYSTEM**

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

**MUSCULOSKELETAL SYSTEM**

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

**NERVOUS SYSTEM**

|                      |    |
|----------------------|----|
| Brain                | 50 |
| Leukemia Mononuclear | 1  |

**RESPIRATORY SYSTEM**

|                                 |    |
|---------------------------------|----|
| Lung                            | 50 |
| Cystic Keratinizing Epithelioma | 1  |
| Leukemia Mononuclear            | 1  |
| Nose                            | 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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Experiment Number: 20403 - 01

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Species/Strain: RATS/HSD

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Lab: BAT

|  |             |   |   |   |   |   |   |   |   |   |  |
|--|-------------|---|---|---|---|---|---|---|---|---|--|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>3.5ppm SevZnDef</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
|  |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |  |
|  |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |  |
|  |             | 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 |  |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |  |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |  |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| <b>* TOTALS</b>  |             |   |   |   |   |   |   |   |   |   |  |

Trachea 50

**SPECIAL SENSES SYSTEM**

Eye 50

Harderian Gland 50

**URINARY SYSTEM**

Kidney 50

Leukemia Mononuclear 1

Lymphoma Malignant 1

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL  
 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 | 0726 | 0726 | 0726 | 0724 | 0722 | 0722 | 0722 | 0722 | 0729 | 0729 | 0729 | 0729 | 0726 | 0726 | 0726 | 0727 | 0727 | 0723 | 0724 | 0729 | 0727 | 0728 | 0528 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|             | 6666 | 6666 | 6666 | 6664 | 6662 | 6662 | 6662 | 6669 | 6669 | 6669 | 6669 | 6666 | 6666 | 6666 | 6667 | 6667 | 6665 | 6664 | 6667 | 6666 | 6667 | 6667 | 6662 |
| ANIMAL ID   | 0030 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 | 0031 | 0031 | 0033 | 0033 | 0033 | 0033 | 0033 | 0033 |
|             | 1234 | 5678 | 9012 | 3456 | 7890 | 1234 | 5678 | 9012 | 3456 | 7890 | 1234 | 5678 | 9012 | 3456 | 7890 | 1234 | 5678 | 9012 | 3456 | 7890 | 1234 | 5678 | 9012 |

females  
(cont...)

**ALIMENTARY SYSTEM**

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

**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

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Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>7ppm ZnDef | DAY ON TEST |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  | females<br>(cont...) |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|----------------------|
|  | 07          | 07 | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 06 | 06 | 06 | 06 | 07 | 05 |  |                      |
| 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 |  |                      |
|  | 33          | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |  |                      |
|  | 00          | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |  |                      |
|  | 12          | 23 | 34 | 45 | 56 | 67 | 78 | 89 | 00 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 00 | 11 | 22 | 33 | 44 | 55 |  |                      |

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel                               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart<br>Endocardium, Schwannoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral 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

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P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Zinc Carbonate, Basic

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<br>FEMALE<br>7ppm ZnDef | DAY ON TEST |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  | ANIMAL ID | females<br>(cont...) |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|-----------|----------------------|
|  | 07          | 07 | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 06 | 06 | 06 | 06 | 07 | 05 |  |           |                      |
|  | 2           | 2  | 2  | 2  | 4  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 3  | 4  | 9  | 7  | 2  | 8  |  |           |                      |
|  | 6           | 6  | 6  | 6  | 4  | 7  | 7  | 7  | 9  | 9  | 9  | 9  | 6  | 6  | 6  | 6  | 7  | 7  | 5  | 4  | 7  | 6  | 7  | 2  |  |           |                      |
|  | 00          | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |  |           |                      |
|  | 33          | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |  |           |                      |
|  | 00          | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |  |           |                      |
|  | 12          | 23 | 34 | 45 | 56 | 67 | 78 | 89 | 00 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |  |           |                      |

|                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ovary                   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Polyp Stromal           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Squamous Cell Carcinoma |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |

HEMATOPOIETIC SYSTEM

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

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 |   |   |
| Skin                         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Subcutaneous Tissue, Fibroma |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>7ppm ZnDef | DAY ON TEST      |                  | ANIMAL ID        |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | females<br>(cont...) |                  |  |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------------|------------------|--|
|  | 0<br>7<br>2<br>6 | 0<br>7<br>2<br>6 | 0<br>7<br>2<br>6 | 0<br>7<br>2<br>6 | 0<br>6<br>4<br>7 | 0<br>7<br>2<br>7 | 0<br>7<br>2<br>7 | 0<br>7<br>2<br>7 | 0<br>7<br>2<br>9 | 0<br>7<br>2<br>9 | 0<br>7<br>2<br>9 | 0<br>7<br>2<br>9 | 0<br>7<br>2<br>6 | 0<br>7<br>2<br>6 | 0<br>7<br>2<br>6 | 0<br>7<br>2<br>7 | 0<br>7<br>2<br>7 | 0<br>6<br>3<br>5 | 0<br>6<br>4<br>4 | 0<br>6<br>9<br>7 | 0<br>6<br>7<br>6 | 0<br>7<br>2<br>7 |                      | 0<br>5<br>8<br>2 |  |
| Bone   | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| <b>NERVOUS SYSTEM</b>                              |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                      |                  |  |
| Brain  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| <b>RESPIRATORY SYSTEM</b>                          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                      |                  |  |
| Lung   | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| Adenocarcinoma, Metastatic, Mammary Gland          |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                      |                  |  |
| Adenocarcinoma, Metastatic, Uterus                 |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                      |                  |  |
| Squamous Cell Carcinoma, Metastatic, Uterus        |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                      |                  |  |
| Nose   | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| Trachea  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| <b>SPECIAL SENSES SYSTEM</b>                       |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                      |                  |  |
| Eye  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| Harderian Gland                                    | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| <b>URINARY SYSTEM</b>                              |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                      |                  |  |
| Kidney   | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| Urinary Bladder                                    | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                    | 0                |  |
| <b>SYSTEMIC LESIONS</b>                            |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                      |                  |  |

\* .. 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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P04: NEOPLASMS BY INDIVIDUAL ANIMAL

Zinc Carbonate, Basic

CAS Number: 5263-02-5

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Lab: BAT

|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                      |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>7ppm ZnDef | DAY ON TEST | 07    | 07    | 07    | 07    | 06    | 07    | 07    | 07    | 07    | 07    | 07    | 07    | 07    | 07    | 07    | 07    | 07    | 06    | 06    | 06    | 06    | 07    | 05    | females<br>(cont...) |
|  | ANIMAL ID   | 00301 | 00302 | 00303 | 00304 | 00305 | 00306 | 00307 | 00308 | 00309 | 00310 | 00311 | 00312 | 00313 | 00314 | 00315 | 00316 | 00317 | 00318 | 00319 | 00320 | 00321 | 00322 | 00323 |                      |
|  |             | 6     | 6     | 6     | 6     | 4     | 7     | 7     | 7     | 9     | 9     | 9     | 9     | 6     | 6     | 6     | 6     | 7     | 7     | 5     | 4     | 7     | 6     | 2     |                      |

Multiple Organ

+ +

\* .. 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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| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>7ppm ZnDef | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | females<br>(cont...) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  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|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----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|  | 0726        | 0721 | 0722 | 0727 | 0728 | 0729 | 0730 | 0731 | 0732 | 0733 | 0734 | 0735 | 0736 | 0737 | 0738 | 0739 | 0740 | 0741 | 0742 | 0743 | 0744 | 0745 | 0746 | 0747 |           |                      | 0748 | 0749 | 0750 | 0751 | 0752 | 0753 | 0754 | 0755 | 0756 | 0757 | 0758 | 0759 | 0760 | 0761 | 0762 | 0763 | 0764 | 0765 | 0766 | 0767 | 0768 | 0769 | 0770 | 0771 | 0772 | 0773 | 0774 | 0775 | 0776 | 0777 | 0778 | 0779 | 0780 | 0781 | 0782 | 0783 | 0784 | 0785 | 0786 | 0787 | 0788 | 0789 | 0790 | 0791 | 0792 | 0793 | 0794 | 0795 | 0796 | 0797 | 0798 | 0799 | 0800 | 0801 | 0802 | 0803 | 0804 | 0805 | 0806 | 0807 | 0808 | 0809 | 0810 | 0811 | 0812 | 0813 | 0814 | 0815 | 0816 | 0817 | 0818 | 0819 | 0820 | 0821 | 0822 | 0823 | 0824 | 0825 | 0826 | 0827 | 0828 | 0829 | 0830 | 0831 | 0832 | 0833 | 0834 | 0835 | 0836 | 0837 | 0838 | 0839 | 0840 | 0841 | 0842 | 0843 | 0844 | 0845 | 0846 | 0847 | 0848 | 0849 | 0850 | 0851 | 0852 | 0853 | 0854 | 0855 | 0856 | 0857 | 0858 | 0859 | 0860 | 0861 | 0862 | 0863 | 0864 | 0865 | 0866 | 0867 | 0868 | 0869 | 0870 | 0871 | 0872 | 0873 | 0874 | 0875 | 0876 | 0877 | 0878 | 0879 | 0880 | 0881 | 0882 | 0883 | 0884 | 0885 | 0886 | 0887 | 0888 | 0889 | 0890 | 0891 | 0892 | 0893 | 0894 | 0895 | 0896 | 0897 | 0898 | 0899 | 0900 | 0901 | 0902 | 0903 | 0904 | 0905 | 0906 | 0907 | 0908 | 0909 | 0910 | 0911 | 0912 | 0913 | 0914 | 0915 | 0916 | 0917 | 0918 | 0919 | 0920 | 0921 | 0922 | 0923 | 0924 | 0925 | 0926 | 0927 | 0928 | 0929 | 0930 | 0931 | 0932 | 0933 | 0934 | 0935 | 0936 | 0937 | 0938 | 0939 | 0940 | 0941 | 0942 | 0943 | 0944 | 0945 | 0946 | 0947 | 0948 | 0949 | 0950 | 0951 | 0952 | 0953 | 0954 | 0955 | 0956 | 0957 | 0958 | 0959 | 0960 | 0961 | 0962 | 0963 | 0964 | 0965 | 0966 | 0967 | 0968 | 0969 | 0970 | 0971 | 0972 | 0973 | 0974 | 0975 | 0976 | 0977 | 0978 | 0979 | 0980 | 0981 | 0982 | 0983 | 0984 | 0985 | 0986 | 0987 | 0988 | 0989 | 0990 | 0991 | 0992 | 0993 | 0994 | 0995 | 0996 | 0997 | 0998 | 0999 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139 | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156 | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 | 1186 | 1187 | 1188 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241 | 1242 | 1243 | 1244 | 1245 | 1246 | 1247 | 1248 | 1249 | 1250 | 1251 | 1252 | 1253 | 1254 | 1255 | 1256 | 1257 | 1258 | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 | 1269 | 1270 | 1271 | 1272 | 1273 | 1274 | 1275 | 1276 | 1277 | 1278 | 1279 | 1280 | 1281 | 1282 | 1283 | 1284 | 1285 | 1286 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292 | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | 1299 | 1300 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 | 1307 | 1308 | 1309 | 1310 | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325 | 1326 | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 | 1340 | 1341 | 1342 | 1343 | 1344 | 1345 | 1346 | 1347 | 1348 | 1349 | 1350 | 1351 | 1352 | 1353 | 1354 | 1355 | 1356 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 | 1363 | 1364 | 1365 | 1366 | 1367 | 1368 | 1369 | 1370 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 | 1377 | 1378 | 1379 | 1380 | 1381 | 1382 | 1383 | 1384 | 1385 | 1386 | 1387 | 1388 | 1389 | 1390 | 1391 | 1392 | 1393 | 1394 | 1395 | 1396 | 1397 | 1398 | 1399 | 1400 | 1401 | 1402 | 1403 | 1404 | 1405 | 1406 | 1407 | 1408 | 1409 | 1410 | 1411 | 1412 | 1413 | 1414 | 1415 | 1416 | 1417 | 1418 | 1419 | 1420 | 1421 | 1422 | 1423 | 1424 | 1425 | 1426 | 1427 | 1428 | 1429 | 1430 | 1431 | 1432 | 1433 | 1434 | 1435 | 1436 | 1437 | 1438 | 1439 | 1440 | 1441 | 1442 | 1443 | 1444 | 1445 | 1446 | 1447 | 1448 | 1449 | 1450 | 1451 | 1452 | 1453 | 1454 | 1455 | 1456 | 1457 | 1458 | 1459 | 1460 | 1461 | 1462 | 1463 | 1464 | 1465 | 1466 | 1467 | 1468 | 1469 | 1470 | 1471 | 1472 | 1473 | 1474 | 1475 | 1476 | 1477 | 1478 | 1479 | 1480 | 1481 | 1482 | 1483 | 1484 | 1485 | 1486 | 1487 | 1488 | 1489 | 1490 | 1491 | 1492 | 1493 | 1494 | 1495 | 1496 | 1497 | 1498 | 1499 | 1500 | 1501 | 1502 | 1503 | 1504 | 1505 | 1506 | 1507 | 1508 | 1509 | 1510 | 1511 | 1512 | 1513 | 1514 | 1515 | 1516 | 1517 | 1518 | 1519 | 1520 | 1521 | 1522 | 1523 | 1524 | 1525 | 1526 | 1527 | 1528 | 1529 | 1530 | 1531 | 1532 | 1533 | 1534 | 1535 | 1536 | 1537 | 1538 | 1539 | 1540 | 1541 | 1542 | 1543 | 1544 | 1545 | 1546 | 1547 | 1548 | 1549 | 1550 | 1551 | 1552 | 1553 | 1554 | 1555 | 1556 | 1557 | 1558 | 1559 | 1560 | 1561 | 1562 | 1563 | 1564 | 1565 | 1566 | 1567 | 1568 | 1569 | 1570 | 1571 | 1572 | 1573 | 1574 | 1575 | 1576 | 1577 | 1578 | 1579 | 1580 | 1581 | 1582 | 1583 | 1584 | 1585 | 1586 | 1587 | 1588 | 1589 | 1590 | 1591 | 1592 | 1593 | 1594 | 1595 | 1596 | 1597 | 1598 | 1599 | 1600 | 1601 | 1602 | 1603 | 1604 | 1605 | 1606 | 1607 | 1608 | 1609 | 1610 | 1611 | 1612 | 1613 | 1614 | 1615 | 1616 | 1617 | 1618 | 1619 | 1620 | 1621 | 1622 | 1623 | 1624 | 1625 | 1626 | 1627 | 1628 | 1629 | 1630 | 1631 | 1632 | 1633 | 1634 | 1635 | 1636 | 1637 | 1638 | 1639 | 1640 | 1641 | 1642 | 1643 | 1644 | 1645 | 1646 | 1647 | 1648 | 1649 | 1650 | 1651 | 1652 | 1653 | 1654 | 1655 | 1656 | 1657 | 1658 | 1659 | 1660 | 1661 | 1662 | 1663 | 1664 | 1665 | 1666 | 1667 | 1668 | 1669 | 1670 | 1671 | 1672 | 1673 | 1674 | 1675 | 1676 | 1677 | 1678 | 1679 | 1680 | 1681 | 1682 | 1683 | 1684 | 1685 | 1686 | 1687 | 1688 | 1689 | 1690 | 1691 | 1692 | 1693 | 1694 | 1695 | 1696 | 1697 | 1698 | 1699 | 1700 | 1701 | 1702 | 1703 | 1704 | 1705 | 1706 | 1707 | 1708 | 1709 | 1710 | 1711 | 1712 | 1713 | 1714 | 1715 | 1716 | 1717 | 1718 | 1719 | 1720 | 1721 | 1722 | 1723 | 1724 | 1725 | 1726 | 1727 | 1728 | 1729 | 1730 | 1731 | 1732 | 1733 | 1734 | 1735 | 1736 | 1737 | 1738 | 1739 | 1740 | 1741 | 1742 | 1743 | 1744 | 1745 | 1746 | 1747 | 1748 | 1749 | 1750 | 1751 | 1752 | 1753 | 1754 | 1755 | 1756 | 1757 | 1758 | 1759 | 1760 | 1761 | 1762 | 1763 | 1764 | 1765 | 1766 | 1767 | 1768 | 1769 | 1770 | 1771 | 1772 | 1773 | 1774 | 1775 | 1776 | 1777 | 1778 | 1779 | 1780 | 1781 | 1782 | 1783 | 1784 | 1785 | 1786 | 1787 | 1788 | 1789 | 1790 | 1791 | 1792 | 1793 | 1794 | 1795 | 1796 | 1797 | 1798 | 1799 | 1800 | 1801 | 1802 | 1803 | 1804 | 1805 | 1806 | 1807 | 1808 | 1809 | 1810 | 1811 | 1812 | 1813 | 1814 | 1815 | 1816 | 1817 | 1818 | 1819 | 1820 | 1821 | 1822 | 1823 | 1824 | 1825 | 1826 | 1827 | 1828 | 1829 | 1830 | 1831 | 1832 | 1833 | 1834 | 1835 | 1836 | 1837 | 1838 | 1839 | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 | 1846 | 1847 | 1848 | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 | 1859 | 1860 | 1861 | 1862 | 1863 | 1864 | 1865 | 1866 | 1867 | 1868 | 1869 | 1870 | 1871 | 1872 | 1873 | 1874 | 1875 | 1876 | 1877 | 1878 | 1879 | 1880 | 1881 | 1882 | 1883 | 1884 | 1885 | 1886 | 1887 | 1888 | 1889 | 1890 | 1891 | 1892 | 1893 | 1894 | 1895 | 1896 | 1897 | 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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<br>FEMALE<br>7ppm ZnDef | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | ANIMAL ID | females<br>(cont...) |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|----------------------|
|  | 0726        | 0721  | 0706  | 0707  | 0707  | 0707  | 0707  | 0706  | 0707  | 0707  | 0707  | 0707  | 0707  | 0707  | 0706  | 0704  | 0704  | 0707  | 0706  | 0706  | 0707  | 0707  | 0705  | 0704  | 0707  |           |                      |
|  | 00326       | 00337 | 00338 | 00339 | 00330 | 00331 | 00332 | 00333 | 00334 | 00335 | 00336 | 00337 | 00338 | 00339 | 00340 | 00341 | 00342 | 00343 | 00344 | 00345 | 00346 | 00347 | 00348 | 00349 | 00350 |           |                      |

|                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| Ovary                   | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |  |
| Uterus                  | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |  |  |
| Adenocarcinoma          |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| Polyp Stromal           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |
| Squamous Cell Carcinoma |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |

**HEMATOPOIETIC SYSTEM**

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

**INTEGUMENTARY SYSTEM**

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

**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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>7ppm ZnDef | DAY ON TEST | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 06 | 07 | 07 | 07 | 07 | 07 | 07 | 06 | 04 | 04 | 07 | 06 | 06 | 07 | 07 | 05 | 04 | 07 | females<br>(cont...) |
|  | 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 |                      |
|  |             | 36 | 36 | 35 | 37 | 37 | 37 | 37 | 36 | 35 | 35 | 35 | 36 | 36 | 36 | 36 | 37 | 34 | 34 | 38 | 32 | 36 | 39 | 25 | 07 | 63 |                      |

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  
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|  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>7ppm ZnDef | DAY ON TEST | 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 | 2 | 3 | 3 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 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 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |             | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |   |   |   |   |   |   |   |   |
| <b>* TOTALS</b>                                    |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

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

\* .. 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

|  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>7ppm ZnDef | DAY ON TEST | 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 | 2 | 3 | 3 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 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 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 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 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |   |   |   |   |   |   |   |   |   |
| <b>* TOTALS</b>                                    |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

Blood Vessel 50

Heart 50  
Endocardium, Schwannoma Malignant 1

**ENDOCRINE SYSTEM**

Adrenal Cortex 50

Adrenal Medulla 50  
Pheochromocytoma Benign 1

Islets, Pancreatic 50

Parathyroid Gland 41

Pituitary Gland 50  
Pars Distalis, Adenoma 9  
Pars Distalis, Carcinoma 1

Thyroid Gland 50  
C-cell, Adenoma 1

**GENERAL BODY SYSTEM**

NONE

**GENITAL SYSTEM**

Clitoral 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

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Route: DOSED FEED

Species/Strain: RATS/HSD

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|
|                                   | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 |
| <b>HARLAN SPRAGUE DAWLEY RATS</b> | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 7 | 7 |
| <b>FEMALE</b>                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| <b>7ppm ZnDef</b>                 |   |   |   |   |   |   |   |   |   |   |
| ANIMAL ID                         | 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 |
|                                   | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |
|                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>                   |   |   |   |   |   |   |   |   |   |   |

Ovary 50

Uterus 49

Adenocarcinoma 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 21

Fibroadenoma, Multiple 12

Skin 50

Subcutaneous Tissue, Fibroma 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

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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 |
|--|-------------------|---|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS<br/>FEMALE</b> |                   | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 |   |
|  |                   | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 7 | 7 |   |
|  | <b>7ppm ZnDef</b> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |   |
|  | ANIMAL ID         | 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 |   |   |
|  | 6                 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |   |   |
|  | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |   |   |
| <b>* TOTALS</b>                              |                   |   |   |   |   |   |   |   |   |   |   |   |

Bone 50

**NERVOUS SYSTEM**

Brain 50

**RESPIRATORY SYSTEM**

Lung 50

Adenocarcinoma, Metastatic, Mammary Gland 1

Adenocarcinoma, Metastatic, Uterus 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**

\* .. 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

|   |             |   |   |   |   |   |   |   |   |   |   |
|---|-------------|---|---|---|---|---|---|---|---|---|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>7ppm ZnDef</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | <p style="text-align: right;"><b>* TOTALS</b></p> |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 |   |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 0 | 7 | 7 |   |
|   |             | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |   |
|   | ANIMAL ID   | 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 |   |
|   |             | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |   |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |   |
|   |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |

Multiple Organ

50

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

|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                      |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>250ppmModZnExc | DAY ON TEST | 07    | 07    | 06    | 05    | 06    | 07    | 06    | 07    | 05    | 07    | 06    | 05    | 04    | 07    | 04    | 07    | 07    | 07    | 01    | 07    | 07    | 07    | 07    | 06    | females<br>(cont...) |
|  | ANIMAL ID   | 00401 | 00402 | 00403 | 00404 | 00405 | 00406 | 00407 | 00408 | 00409 | 00410 | 00411 | 00412 | 00413 | 00414 | 00415 | 00416 | 00417 | 00418 | 00419 | 00420 | 00421 | 00422 | 00423 | 00424 |                      |
|  |             | 29    | 29    | 22    | 65    | 01    | 26    | 59    | 26    | 37    | 25    | 75    | 87    | 49    | 26    | 11    | 26    | 27    | 27    | 79    | 27    | 27    | 27    | 27    | 59    |                      |

ALIMENTARY SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus                              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum<br>Leiomyoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Liver                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pancreas                               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands                        | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 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

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>250ppmModZnExc | DAY ON TEST |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        | females<br>(cont...) |  |
|--|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------|--|
|  | 0729        | 0729   | 0662   | 0565   | 0671   | 0667   | 0776   | 0766   | 0776   | 0575   | 0776   | 0665   | 0474   | 0774   | 0474   | 0282   | 0822   | 0622   | 0772   | 0777   | 0177   | 0777   | 0777   | 0777   | 0676   |                      |  |
| ANIMAL ID  | 004001      | 004002 | 004003 | 004004 | 004005 | 004006 | 004007 | 004008 | 004009 | 004010 | 004011 | 004012 | 004013 | 004014 | 004015 | 004016 | 004017 | 004018 | 004019 | 004020 | 004021 | 004022 | 004023 | 004024 | 004025 |                      |  |
| Blood Vessel   | +           | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      |                      |  |
| Heart  | +           | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +      | +                    |  |

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL 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

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| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>250ppmModZnExc | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | females<br>(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
|  | 0729        | 0729 | 0692 | 0565 | 0671 | 0676 | 0776 | 0677 | 0575 | 0775 | 0666 | 0573 | 0772 | 0668 | 0474 | 0774 | 0472 | 0828 | 0226 | 0772 | 0777 | 0177 | 0777 | 0777 | 0777 |           |                      |
|  | 0040        | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040 | 0040      |                      |
|  | 12          | 23   | 34   | 45   | 56   | 67   | 78   | 89   | 00   | 01   | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17        |                      |

|                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland       | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + |
| Ovary                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus<br>Hemangioma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

**HEMATOPOIETIC SYSTEM**

|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Lymph Node, Mandibular       | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |   |
| Lymph Node, Mesenteric       | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Spleen                       | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus<br>Lymphoma Malignant | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

**INTEGUMENTARY SYSTEM**

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

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>250ppmModZnExc | DAY ON TEST |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   | ANIMAL ID | females<br>(cont...) |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|-----------|----------------------|
|  | 07          | 07 | 06 | 05 | 06 | 07 | 06 | 07 | 05 | 07 | 06 | 05 | 04 | 07 | 04 | 07 | 07 | 07 | 01 | 07 | 07 | 07 | 07 | 06 |   |           |                      |
|  | 2           | 2  | 9  | 6  | 0  | 2  | 5  | 2  | 3  | 2  | 8  | 7  | 4  | 2  | 8  | 2  | 2  | 2  | 7  | 2  | 2  | 2  | 2  | 5  |   |           |                      |
|  | 9           | 9  | 2  | 5  | 1  | 6  | 9  | 6  | 7  | 5  | 7  | 5  | 9  | 6  | 1  | 6  | 7  | 7  | 9  | 7  | 7  | 7  | 7  | 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  |   |           |                      |
|  | 4           | 4  | 4  | 4  | 4  | 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  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 2  | 2  | 2  | 2  | 2  |   |           |                      |
|  | 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 |           |                      |

Skin +

MUSCULOSKELETAL SYSTEM

Bone Carcinoma, Metastatic, Zymbal'S Gland +

NERVOUS SYSTEM

Brain +  
Peripheral Nerve +  
Spinal Cord +

RESPIRATORY SYSTEM

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

SPECIAL SENSES SYSTEM

Eye + + M +  
Harderian Gland + + M +

\* .. 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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P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                  |   |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------------------|---|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>250ppmModZnExc</b> | 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                |   |
|   |             | 7 | 7 | 6 | 5 | 6 | 7 | 6 | 7 | 5 | 7 | 6 | 5 | 4 | 7 | 4 | 7 | 7 | 7 | 7 | 1 | 7 | 7 | 7 | 7                | 6 |
|   |             | 2 | 2 | 9 | 6 | 0 | 2 | 5 | 2 | 3 | 2 | 8 | 7 | 4 | 2 | 8 | 2 | 2 | 2 | 2 | 7 | 2 | 2 | 2 | 2                | 5 |
|   | 9           | 9 | 2 | 5 | 1 | 6 | 9 | 6 | 7 | 5 | 7 | 5 | 9 | 6 | 1 | 6 | 7 | 7 | 7 | 9 | 7 | 7 | 7 | 7 | 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                |   |
|   | 4           | 4 | 4 | 4 | 4 | 4 | 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 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2                |   |
|   | 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                |   |
|   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>females</b>   |   |
|   |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | <b>(cont...)</b> |   |

Zymbal's Gland  
Carcinoma

**URINARY SYSTEM**

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

**SYSTEMIC LESIONS**

|                                      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Multiple Organ<br>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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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...) |
|-------------|-----------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|-------------------|
|             | 07                                | 06 | 04 | 07 | 07 | 07 | 04 | 05 | 05 | 07 | 07 | 05 | 06 | 07 | 07 | 02 | 07 | 07 | 07 | 07 | 07 | 07 | 06 | 05 |           |                   |
| 26          | 5                                 | 4  | 8  | 0  | 2  | 2  | 8  | 6  | 0  | 2  | 2  | 5  | 3  | 2  | 2  | 7  | 2  | 2  | 2  | 1  | 2  | 6  | 6  | 5  | 2         |                   |
| 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        |                   |
| 44          | 44                                | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44        |                   |
| 22          | 22                                | 22 | 22 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44        |                   |
| 66          | 77                                | 88 | 99 | 00 | 11 | 22 | 33 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 00 | 11 | 22 | 33 | 44 | 44 | 55 | 66 | 77 | 88 | 99        |                   |

ALIMENTARY SYSTEM

|  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Esophagus                              | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Cecum                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Colon                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Large, Rectum                | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Duodenum<br>Leiomyoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Ileum                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Intestine Small, Jejunum               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Liver                                  | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pancreas                               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + |
| Salivary Glands                        | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + |
| 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>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 | ANIMAL ID | females<br>(cont...) |   |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|----------------------|---|
|  |             | 7 | 6 | 4 | 7 | 7 | 7 | 4 | 5 | 5 | 7 | 7 | 5 | 6 | 7 | 7 | 2 | 7 | 7 | 7 | 7 | 7 | 7 | 2 | 7 | 7 | 6 |           |                      | 5 |
|  |             | 2 | 5 | 8 | 0 | 2 | 2 | 8 | 6 | 0 | 2 | 2 | 5 | 3 | 2 | 2 | 7 | 2 | 2 | 2 | 1 | 2 | 2 | 6 | 6 | 6 | 5 | 5         |                      |   |
|  |             | 6 | 4 | 8 | 1 | 5 | 5 | 8 | 8 | 3 | 5 | 5 | 2 | 5 | 7 | 7 | 8 | 7 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 6 | 6 | 2         |                      |   |
|  |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0         |                      |   |
|  |             | 0 | 0 | 0 | 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 | 4 | 4 | 4         |                      |   |
|  |             | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4         |                      |   |
|  |             | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |           |                      |   |

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

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL 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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Zinc Carbonate, Basic

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| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>250ppmModZnExc | DAY ON TEST |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | females<br>(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 |                      |
|  | 7           | 6 | 4 | 7 | 7 | 7 | 4 | 5 | 5 | 7 | 7 | 5 | 6 | 7 | 7 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 1 | 7 | 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 |                      |
| 4  | 4           | 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  | 2           | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |                      |
| 6  | 7           | 8 | 9 | 0 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |                      |

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary          | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Uterus         | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemangioma     |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

HEMATOPOIETIC SYSTEM

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

INTEGUMENTARY SYSTEM

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

|   |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>250ppmModZnExc</b> | DAY ON TEST | 07 | 06 | 04 | 07 | 07 | 07 | 04 | 05 | 05 | 07 | 07 | 05 | 06 | 07 | 07 | 02 | 07 | 07 | 07 | 07 | 07 | 06 | 07 | 07 | 06 | 05 |
|   | ANIMAL ID   | 02 | 05 | 08 | 00 | 02 | 02 | 08 | 06 | 00 | 02 | 02 | 05 | 03 | 02 | 02 | 07 | 08 | 07 | 07 | 07 | 06 | 06 | 06 | 06 | 05 | 02 |
|   |             | 06 | 04 | 08 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |

females  
(cont...)

Zymbal's Gland  
Carcinoma

+  
X

URINARY SYSTEM

Kidney

+ +

Urinary Bladder

+ +

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

M .. Missing tissue  
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Experiment Number: 20403 - 01

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Lab: BAT

|   |             |   |   |   |   |   |   |   |   |   |   |                 |
|---|-------------|---|---|---|---|---|---|---|---|---|---|-----------------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>250ppmModZnExc</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |                 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 |                 |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |                 |
|   |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |                 |
|   | ANIMAL ID   | 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 |                 |
|   |             | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |                 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |                 |
|   |             |   |   |   |   |   |   |   |   |   |   | <b>* TOTALS</b> |

**ALIMENTARY SYSTEM**

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

**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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>250ppmModZnExc | DAY ON TEST | 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 | 0 | 3 | 3 | 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 | 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 |
|  |             | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
|  |             | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
|  |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |   |   |   |   |   |   |   |   |
| <b>* TOTALS</b>  |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

Blood Vessel 50

Heart 50

ENDOCRINE SYSTEM

Adrenal Cortex Carcinoma 50  
1

Adrenal Medulla Pheochromocytoma Benign 50  
2

Islets, Pancreatic Adenoma 49  
1

Parathyroid Gland 42

Pituitary Gland Pars Distalis, Adenoma 50  
3

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

GENERAL BODY SYSTEM

NONE

GENITAL 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

**P04: NEOPLASMS BY INDIVIDUAL ANIMAL**

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 |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|
|                                   | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 |
| <b>HARLAN SPRAGUE DAWLEY RATS</b> | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| <b>FEMALE</b>                     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| <b>250ppmModZnExc</b>             |   |   |   |   |   |   |   |   |   |   |
| ANIMAL ID                         | 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 |
|                                   | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
|                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| <b>* TOTALS</b>                   |   |   |   |   |   |   |   |   |   |   |

|                |           |
|----------------|-----------|
| Clitoral Gland | <b>49</b> |
| Ovary          | <b>50</b> |
| Uterus         | <b>50</b> |
| Hemangioma     | <b>1</b>  |

**HEMATOPOIETIC SYSTEM**

|                        |           |
|------------------------|-----------|
| Bone Marrow            | <b>50</b> |
| Lymph Node, Mandibular | <b>48</b> |
| Lymph Node, Mesenteric | <b>50</b> |
| Spleen                 | <b>50</b> |
| Thymus                 | <b>49</b> |
| Lymphoma Malignant     | <b>1</b>  |

**INTEGUMENTARY SYSTEM**

|                          |           |
|--------------------------|-----------|
| Mammary Gland            | <b>50</b> |
| Adenocarcinoma           | <b>2</b>  |
| Adenocarcinoma, Multiple | <b>2</b>  |
| Adenoma                  | <b>3</b>  |
| Fibroadenoma             | <b>22</b> |
| Fibroadenoma, Multiple   | <b>9</b>  |
| Fibrosarcoma             | <b>1</b>  |
| Schwannoma Malignant     | <b>1</b>  |

\* .. 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br><b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>250ppmModZnExc</b> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 |
| ANIMAL ID  | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
|  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 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 |   |
|  | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |   |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |   |
| <b>* TOTALS</b>  |   |   |   |   |   |   |   |   |   |   |

Skin

50

**MUSCULOSKELETAL SYSTEM**

Bone

50

Carcinoma, Metastatic, Zymbal'S Gland

1

**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

\* .. 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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Lab: BAT

|   |             |   |   |   |   |   |   |   |   |   |   |                 |
|---|-------------|---|---|---|---|---|---|---|---|---|---|-----------------|
| <b>HARLAN SPRAGUE DAWLEY RATS</b><br><b>FEMALE</b><br><b>250ppmModZnExc</b> | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |   |                 |
|   |             | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 |                 |
|   |             | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |                 |
|   |             | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |                 |
|   | ANIMAL ID   | 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 |                 |
|   |             | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |                 |
|   |             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |                 |
|   |             |   |   |   |   |   |   |   |   |   |   | <b>* TOTALS</b> |

Zymbal's Gland  
Carcinoma

1  
1

**URINARY SYSTEM**

Kidney

50

Urinary Bladder

50

**SYSTEMIC LESIONS**

Multiple Organ  
Lymphoma Malignant

50  
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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BLANK .. Not examined microscopically

Experiment Number: 20403 - 01

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|  |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |                      |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>500ppm ZnExc | DAY ON TEST | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | 07 | 07 | 03 | 06 | 07 | 07 | 03 | 07 | 04 | 07 | 05 | 07 | 06 | 0 | females<br>(cont...) |
|  | 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 | 0 |                      |
|  |             | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 5 |                      |

ALIMENTARY SYSTEM

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

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  
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Experiment Number: 20403 - 01

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Zinc Carbonate, Basic

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Lab: BAT

| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>500ppm ZnExc | DAY ON TEST |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          | females<br>(cont...) |          |          |
|--|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------------|----------|----------|
|  | 07<br>25    | 07<br>25 | 07<br>25 | 07<br>25 | 07<br>01 | 07<br>01 | 07<br>05 | 07<br>08 | 07<br>05 | 07<br>05 | 07<br>05 | 07<br>06 | 07<br>06 | 07<br>03 | 07<br>06 | 07<br>07 | 07<br>06 | 07<br>03 | 07<br>07 | 07<br>04 | 07<br>08 | 07<br>02 | 07<br>07 | 07<br>05 |                      | 07<br>06 | 07<br>04 |
| ANIMAL ID  | 00451       | 00452    | 00453    | 00454    | 00455    | 00456    | 00457    | 00458    | 00459    | 00460    | 00461    | 00462    | 00463    | 00464    | 00465    | 00466    | 00467    | 00468    | 00469    | 00470    | 00471    | 00472    | 00473    | 00474    | 00475                | 00476    | 00477    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel        | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart               | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Histiocytic Sarcoma |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

ENDOCRINE SYSTEM

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

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>500ppm ZnExc | DAY ON TEST      |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | ANIMAL ID            | females<br>(cont...) |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------------|----------------------|
|  | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>0<br>1 | 0<br>7<br>0<br>1 | 0<br>7<br>2<br>5 | 0<br>7<br>6<br>8 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 | 0<br>7<br>2<br>5 |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00451            | females<br>(cont...) |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00452            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00453            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00454            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00455            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00456            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00457            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00458            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00459            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00460            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00461            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00462            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00463            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00464            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00465            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00466            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00467            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00468            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00469            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00470            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00471            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00472            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00473            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00474            |                  |                      |                      |
|  | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 00475            |                  |                      |                      |

Granulosa Cell Tumor Malignant

|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Uterus                       | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Adenocarcinoma               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Polyp Stromal                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Cervix, Schwannoma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

HEMATOPOIETIC SYSTEM

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bone Marrow                      | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Histiocytic Sarcoma              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node                       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Pancreatic, Schwannoma Malignant |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Lymph Node, Mandibular           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Lymph Node, Mesenteric           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hemangiosarcoma                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Histiocytic Sarcoma              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Spleen                           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymus                           | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Thymoma Malignant                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

INTEGUMENTARY SYSTEM

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

Experiment Number: 20403 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>500ppm ZnExc | DAY ON TEST |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          | females<br>(cont...) |
|--|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------------|
|  | 07<br>25    | 07<br>25 | 07<br>25 | 07<br>25 | 07<br>01 | 07<br>01 | 07<br>05 | 07<br>08 | 07<br>05 | 07<br>05 | 07<br>05 | 07<br>05 | 07<br>06 | 07<br>06 | 03<br>00 | 06<br>05 | 07<br>02 | 07<br>06 | 03<br>07 | 04<br>08 | 07<br>02 | 05<br>06 | 07<br>02 | 07<br>05 |                      |
| ANIMAL ID  | 00451       | 00442    | 00443    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444    | 00444                |
| Fibroadenoma   |             |          |          |          | X        |          |          | X        | X        | X        |          |          |          |          | X        |          |          |          | X        | X        |          |          |          | X        |                      |
| Fibroadenoma, Multiple                               | X           | X        |          |          | X        |          | X        | X        |          |          |          |          | X        |          |          |          |          |          | X        | X        |          |          |          |          | X                    |
| Schwannoma Malignant                                 |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                      |
| Skin   | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +                    |
| <b>MUSCULOSKELETAL SYSTEM</b>                        |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                      |
| Bone   | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +                    |
| <b>NERVOUS SYSTEM</b>                                |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                      |
| Brain  | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +                    |
| Peripheral Nerve                                     |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                      |
| Spinal Cord  |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                      |
| <b>RESPIRATORY SYSTEM</b>                            |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                      |
| Lung   | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +                    |
| Histiocytic Sarcoma                                  |             |          |          | X        |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                      |
| Nose   | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +                    |
| Trachea  | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +                    |
| <b>SPECIAL SENSES SYSTEM</b>                         |             |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                      |
| Eye  | +           | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +        | +                    |

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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|  |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>500ppm ZnExc | DAY ON TEST | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 05 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 03 | 06 | 07 | 07 | 03 | 07 | 04 | 07 | 05 | 07 | 06 | 07 |
|  | 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 |
|  |             | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |

females  
(cont...)

Harderian Gland

+ +

URINARY SYSTEM

Kidney  
Histiocytic Sarcoma

+  
X

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

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|  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                      |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE<br>500ppm ZnExc | DAY ON TEST | 0362  | 0725  | 0775  | 0538  | 0379  | 0772  | 0772  | 0772  | 0772  | 0772  | 0664  | 0224  | 0661  | 0772  | 0664  | 0472  | 0772  | 0772  | 0665  | 0771  | 0775  | 0772  | 0775  | females<br>(cont...) |
|  | ANIMAL ID   | 00476 | 00447 | 00448 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 | 00444 |                      |
|  |             | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  | 0000  |                      |

ALIMENTARY SYSTEM

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

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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>500ppm ZnExc | DAY ON TEST |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | ANIMAL ID | females<br>(cont...) |
|--|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|----------------------|
|  | 0362        | 0725 | 0775 | 0587 | 0396 | 0778 | 0778 | 0777 | 0777 | 0777 | 0777 | 0777 | 0645 | 0243 | 0661 | 0728 | 0662 | 0473 | 0728 | 0725 | 0725 | 0714 | 0671 | 0775 |           |                      |
|  | 0046        | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044 | 0044      |                      |

|                              |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blood Vessel                 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart<br>Histiocytic Sarcoma | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

ENDOCRINE SYSTEM

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

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

|                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ovary          | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + |

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+ .. Tissue examined microscopically  
X .. Lesion present  
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Experiment Number: 20403 - 01

Test Type: CHRONIC

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Species/Strain: RATS/HSD

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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<br>FEMALE<br>500ppm ZnExc | DAY ON TEST |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  | females<br>(cont...) |
|--|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|----------------------|
|  | 0362        | 0725  | 0725  | 0587  | 0396  | 0778  | 0778  | 0778  | 0778  | 0778  | 0778  | 0645  | 0243  | 0610  | 0728  | 0621  | 0473  | 0728  | 0725  | 0725  | 0671  | 0725  | 0725  |  |                      |
| ANIMAL ID  | 00476       | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 | 00447 |  |                      |
| Fibroadenoma   |             |       | X     |       | X     |       |       |       |       |       |       |       |       |       |       |       | X     |       |       |       | X     |       | X     |  |                      |
| Fibroadenoma, Multiple                               |             |       |       | X     |       |       | X     |       |       |       |       |       |       | X     | X     |       |       | X     |       |       | X     |       | X     |  |                      |
| Schwannoma Malignant                                 | X           |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |                      |
| Skin   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     |  |                      |
| <b>MUSCULOSKELETAL SYSTEM</b>                        |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |                      |
| Bone   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     |  |                      |
| <b>NERVOUS SYSTEM</b>                                |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |                      |
| Brain  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     |  |                      |
| Peripheral Nerve                                     |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |                      |
| Spinal Cord  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |                      |
| <b>RESPIRATORY SYSTEM</b>                            |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |                      |
| Lung   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     |  |                      |
| Histiocytic Sarcoma                                  |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |                      |
| Nose   | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     |  |                      |
| Trachea  | +           | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     | +     |  |                      |
| <b>SPECIAL SENSES SYSTEM</b>                         |             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |  |                      |
| 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

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

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

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

**ALIMENTARY SYSTEM**

|                           |           |
|---------------------------|-----------|
| Esophagus                 | <b>49</b> |
| Intestine Large, Cecum    | <b>48</b> |
| Intestine Large, Colon    | <b>49</b> |
| Intestine Large, Rectum   | <b>49</b> |
| Intestine Small, Duodenum | <b>49</b> |
| Intestine Small, Ileum    | <b>49</b> |
| Intestine Small, Jejunum  | <b>49</b> |
| Liver                     | <b>50</b> |
| Histiocytic Sarcoma       | <b>1</b>  |
| Pancreas                  | <b>49</b> |
| Schwannoma Malignant      | <b>1</b>  |
| Salivary Glands           | <b>49</b> |
| Stomach, Forestomach      | <b>49</b> |
| Stomach, Glandular        | <b>49</b> |

**CARDIOVASCULAR SYSTEM**

\* .. Total animals with tissue examined microscopically; Total animals with tumor  
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I .. Insufficient tissue

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Lab: BAT

| DAY ON TEST                          | 0               | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|
|                                      | 3               | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3 |
| HARLAN SPRAGUE DAWLEY RATS<br>FEMALE | 7               | 7 | 7 | 7 | 7 | 6 | 7 | 7 | 7 | 7 |
|                                      | 0               | 0 | 0 | 0 | 0 | 4 | 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 |
| 500ppm ZnExc                         | 5               | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 |
|                                      | 9               | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 0 |
|                                      | 1               | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|                                      | <b>* TOTALS</b> |   |   |   |   |   |   |   |   |   |

Blood Vessel 50

Heart 50  
Histiocytic Sarcoma 1

ENDOCRINE SYSTEM

Adrenal Cortex 50

Adrenal Medulla 50

Islets, Pancreatic 49

Parathyroid Gland 43

Pituitary Gland 50  
Pars Distalis, Adenoma 8

Thyroid Gland 48  
C-cell, Adenoma 3

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

Clitoral Gland 50

Ovary 49

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

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

Granulosa Cell Tumor Malignant

1

Uterus

50

Adenocarcinoma

1

Polyp Stromal

2

Cervix, Schwannoma Malignant

1

**HEMATOPOIETIC SYSTEM**

Bone Marrow

50

Histiocytic Sarcoma

1

Lymph Node

1

Pancreatic, Schwannoma Malignant

1

Lymph Node, Mandibular

48

Lymph Node, Mesenteric

49

Hemangiosarcoma

1

Histiocytic Sarcoma

1

Spleen

49

Thymus

49

Thymoma Malignant

1

**INTEGUMENTARY SYSTEM**

Mammary Gland

50

Adenocarcinoma

4

Adenoma

1

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

+ .. Tissue examined microscopically

X .. Lesion present

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

Fibroadenoma 13

Fibroadenoma, Multiple 14

Schwannoma Malignant 1

Skin 50

**MUSCULOSKELETAL SYSTEM**

Bone 50

**NERVOUS SYSTEM**

Brain 50

Peripheral Nerve 1

Spinal Cord 1

**RESPIRATORY SYSTEM**

Lung 50

Histiocytic Sarcoma 1

Nose 50

Trachea 50

**SPECIAL SENSES SYSTEM**

Eye 50

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

+ .. Tissue examined microscopically

X .. Lesion present

I .. Insufficient tissue

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

\* TOTALS

Harderian Gland

50

**URINARY SYSTEM**

Kidney

49

Histiocytic Sarcoma

1

Urinary Bladder

49

**SYSTEMIC LESIONS**

Multiple Organ

50

Histiocytic Sarcoma

1

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

\* .. 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