

**TDMs No.** 20008 - 03

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH  
AVERAGE SEVERITY GRADES[b]**

**Date Report Requested:** 10/09/2008

**Test Type:** CHRONIC

Milk thistle extract

**Time Report Requested:** 11:00:55

**Route:** DOSED FEED

**CAS Number:** 84604-20-6

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

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

**Lab:** SRI

F1\_R2

**C Number:** C20008  
**Lock Date:** 06/29/2006  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** ALL  
**Removal Date Range:** ALL  
**Treatment Groups:** Include ALL  
**Study Gender:** Both  
**TDMSE Version:** 2.0.0

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Species/Strain: RATS/F 344/N

Lab: SRI

FISCHER 344 RATS MALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
<b>Disposition Summary</b>				
Animals Initially in Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	10	12	12	9
Natural Death	4	2	3	3
Survivors				
Terminal Sacrifice	36	36	35	38
Animals Examined Microscopically	50	50	50	50
<b>ALIMENTARY SYSTEM</b>				
Esophagus	(50)	(50)	(50)	(49)
Inflammation, Acute	1 [1.0]			
Intestine Large, Cecum	(49)	(49)	(49)	(47)
Ulcer			1 [4.0]	
Intestine Large, Colon	(46)	(48)	(47)	(47)
Edema	1 [3.0]			1 [4.0]
Necrosis			1 [4.0]	
Ulcer	1 [2.0]			1 [4.0]
Intestine Large, Rectum	(47)	(50)	(47)	(46)
Edema		1 [3.0]		1 [3.0]
Fibrosis		1 [2.0]		1 [3.0]
Hemorrhage				1 [1.0]
Hemorrhage, Chronic				1 [3.0]
Inflammation, Chronic				1 [3.0]
Necrosis	1 [1.0]			
Intestine Small, Duodenum	(48)	(48)	(48)	(49)
Intestine Small, Ileum	(47)	(47)	(48)	(48)
Intestine Small, Jejunum	(46)	(48)	(47)	(47)
Perforation				1 [4.0]
Ulcer		1 [3.0]		
Liver	(50)	(50)	(50)	(50)
Angiectasis	3 [2.0]			1 [1.0]
Atrophy	1 [3.0]			
Basophilic Focus	33	36	32	34
Clear Cell Focus	29	29	31	33
Degeneration, Cystic		2 [1.0]		

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

b - Average severity grade (1-minimal; 2-mild; 3-moderate; 4-marked)

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FISCHER 344 RATS MALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Eosinophilic Focus	12	7	10	19
Hematopoietic Cell Proliferation	1 [1.0]			
Hepatodiaphragmatic Nodule	4	4	6	3
Infarct				2 [4.0]
Infiltration Cellular, Mixed Cell	31 [1.1]	32 [1.0]	27 [1.1]	15 [1.0]
Malformation			1	
Mixed Cell Focus	9	5	7	5
Necrosis, Focal	1 [1.0]			1 [2.0]
Pigmentation, Focal	1 [2.0]			
Bile Duct, Hyperplasia	50 [2.5]	48 [2.4]	44 [2.1]	17 [1.4]
Hepatocyte, Vacuolization Cytoplasmic	8 [2.5]	9 [2.0]	9 [2.4]	4 [2.3]
Serosa, Fibrosis				1 [4.0]
Mesentery	(3)	(2)	(6)	(6)
Accessory Spleen			1	2
Fat, Necrosis	3 [2.0]	1 [4.0]	3 [1.7]	4 [2.8]
Oral Mucosa	(0)	(0)	(1)	(0)
Pharyngeal, Hyperplasia			1 [3.0]	
Pancreas	(50)	(50)	(50)	(50)
Atrophy	42 [1.8]	36 [1.6]	35 [1.7]	30 [1.6]
Metaplasia, Hepatocyte			1 [1.0]	1 [2.0]
Acinus, Hyperplasia, Focal	5 [1.8]	4 [2.8]	8 [2.8]	9 [2.0]
Duct, Ectasia	24 [2.0]	27 [1.5]	19 [1.6]	27 [1.7]
Salivary Glands	(48)	(50)	(50)	(50)
Atrophy	7 [1.6]	7 [1.0]	4 [1.3]	9 [1.2]
Hyperplasia, Lymphoid				1 [1.0]
Inflammation, Acute	1 [2.0]			
Stomach, Forestomach	(50)	(50)	(50)	(50)
Edema	2 [3.0]	4 [2.8]	5 [2.2]	3 [2.0]
Inflammation, Chronic Active		1 [1.0]		
Ulcer	3 [4.0]	4 [4.0]	4 [2.5]	3 [3.3]
Epithelium, Hyperplasia	3 [2.3]	6 [2.3]	7 [2.7]	5 [1.4]
Stomach, Glandular	(50)	(50)	(49)	(50)
Cyst	1 [2.0]	1 [3.0]		
Edema	1 [2.0]	2 [2.5]	2 [2.0]	1 [2.0]
Erosion	3 [1.3]	3 [1.3]	3 [1.7]	2 [2.5]
Ulcer	4 [2.8]	1 [4.0]	4 [2.8]	3 [1.7]
Glands, Hyperplasia		1 [2.0]		1 [4.0]
Tongue	(1)	(1)	(0)	(0)
Hyperplasia		1 [3.0]		

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Lab: SRI

FISCHER 344 RATS MALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
<b>CARDIOVASCULAR SYSTEM</b>				
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	48 [1.5]	45 [1.2]	45 [1.3]	42 [1.3]
Thrombosis	3 [2.7]	4 [2.8]	7 [2.6]	2 [2.5]
Myocardium, Necrosis	1 [3.0]	1 [3.0]	1 [1.0]	
Valve, Hyperplasia	1 [2.0]	1 [2.0]	3 [2.3]	3 [1.7]
<b>ENDOCRINE SYSTEM</b>				
Adrenal Cortex	(50)	(50)	(50)	(50)
Accessory Adrenal Cortical Nodule	26 [1.4]	24 [1.5]	18 [1.4]	16 [1.4]
Degeneration, Cystic	1 [4.0]			
Degeneration, Fatty	17 [1.5]	17 [1.3]	24 [1.5]	15 [1.5]
Hyperplasia, Focal	7 [1.9]	12 [1.5]	14 [1.9]	6 [1.8]
Hypertrophy, Focal		4 [1.5]	1 [1.0]	1 [2.0]
Necrosis			1 [1.0]	1 [1.0]
Adrenal Medulla	(50)	(49)	(50)	(50)
Angiectasis	1 [3.0]			
Hyperplasia	14 [2.0]	16 [1.7]	10 [2.0]	15 [2.1]
Islets, Pancreatic	(50)	(50)	(50)	(50)
Amyloid Deposition, Focal		1 [2.0]		
Hyperplasia	2 [2.5]	2 [2.0]	3 [1.3]	
Parathyroid Gland	(50)	(49)	(49)	(47)
Cyst			1 [2.0]	
Hyperplasia, Focal		1 [2.0]		
Pituitary Gland	(50)	(50)	(50)	(50)
Hemorrhage		1 [1.0]		
Infiltration Cellular, Histiocyte	1 [2.0]			
Pigmentation	1 [3.0]		1 [1.0]	
Pars Distalis, Angiectasis	2 [2.0]	4 [3.0]	1 [3.0]	
Pars Distalis, Cyst	6 [2.0]	2 [2.0]	5 [2.4]	5 [2.0]
Pars Distalis, Hyperplasia	1 [3.0]	1 [2.0]	2 [3.5]	5 [3.4]
Pars Distalis, Hyperplasia, Focal	11 [1.7]	14 [1.5]	19 [1.7]	15 [2.0]
Pars Distalis, Hypertrophy		1 [3.0]	1 [3.0]	
Pars Intermedia, Cyst	2 [2.0]	4 [2.3]	1 [2.0]	2 [2.0]
Rathke's Cleft, Hemorrhage	2 [2.5]		2 [2.0]	
Thyroid Gland	(48)	(49)	(50)	(49)
Degeneration, Cystic	6 [1.3]	7 [1.0]	5 [1.8]	4 [1.0]

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FISCHER 344 RATS MALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Pigmentation			1 [2.0]	
Ultimobranchial Cyst	1 [1.0]	2 [1.0]	2 [1.5]	4 [1.5]
C-cell, Hyperplasia	9 [1.3]	25 [1.6]	15 [1.9]	16 [1.6]
Follicular Cell, Hyperplasia, Focal		4 [1.8]	2 [3.0]	
<b>GENERAL BODY SYSTEM</b>				
Tissue NOS	(1)	(1)	(1)	(2)
Inflammation, Chronic				1 [4.0]
Necrosis		1 [1.0]		
<b>GENITAL SYSTEM</b>				
Epididymis	(50)	(50)	(50)	(50)
Granuloma Sperm		1 [4.0]		1 [4.0]
Inflammation	1 [2.0]	1 [2.0]		
Inflammation, Chronic	1 [1.0]			
Preputial Gland	(50)	(49)	(50)	(50)
Cyst	1 [3.0]	1 [4.0]	1 [2.0]	1 [3.0]
Hyperplasia	3 [2.3]	6 [1.3]		2 [3.0]
Inflammation, Chronic	39 [1.8]	37 [1.9]	40 [1.9]	40 [1.8]
Duct, Ectasia			1 [4.0]	
Prostate	(50)	(50)	(50)	(50)
Fibrosis				1 [2.0]
Inflammation, Chronic	19 [1.8]	17 [2.2]	13 [1.9]	16 [2.1]
Epithelium, Hyperplasia	9 [1.2]	8 [1.4]	8 [1.3]	7 [1.4]
Seminal Vesicle	(50)	(50)	(50)	(50)
Inflammation	1 [4.0]			
Testes	(50)	(50)	(50)	(50)
Atrophy				1 [4.0]
Inflammation			1 [3.0]	
Germinal Epithelium, Atrophy	6 [3.7]	8 [2.9]	11 [3.0]	7 [2.4]
Interstitial Cell, Hyperplasia	3 [1.0]	4 [1.0]	5 [1.6]	5 [1.2]
<b>HEMATOPOIETIC SYSTEM</b>				
Bone Marrow	(48)	(50)	(50)	(49)
Amyloid Deposition	1 [3.0]			

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Hyperplasia	5 [3.2]	7 [1.9]	9 [2.0]	6 [2.3]
Infiltration Cellular, Histiocyte	1 [3.0]	1 [1.0]		
Myelofibrosis	1 [1.0]	1 [3.0]	2 [1.0]	
Lymph Node	(10)	(11)	(18)	(6)
Mediastinal, Abscess				1
Mediastinal, Ectasia	1 [4.0]	1 [4.0]		
Mediastinal, Hemorrhage	2 [2.5]	1 [4.0]	3 [3.0]	
Mediastinal, Hyperplasia, Lymphoid	2 [2.0]	2 [2.0]	4 [2.3]	
Mediastinal, Pigmentation	1 [2.0]	1 [3.0]	2 [1.5]	
Pancreatic, Ectasia	1 [3.0]			
Pancreatic, Hemorrhage	1 [2.0]			
Pancreatic, Hyperplasia, Lymphoid			1 [2.0]	
Lymph Node, Mandibular	(1)	(1)	(1)	(3)
Ectasia				1 [1.0]
Hyperplasia, Lymphoid			1 [1.0]	
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Atrophy				1 [2.0]
Ectasia	1 [2.0]		1 [3.0]	1 [1.0]
Hemorrhage	3 [1.0]	4 [1.3]	1 [1.0]	3 [1.0]
Hyperplasia, Lymphoid	15 [1.8]	31 [1.9]	23 [2.0]	20 [1.9]
Hyperplasia, Reticulum Cell				1 [3.0]
Pigmentation	45 [1.2]	27 [1.0]	17 [1.0]	9 [1.0]
Spleen	(50)	(50)	(50)	(50)
Accessory Spleen	1			
Fibrosis	4 [2.8]	3 [2.0]	2 [2.0]	2 [2.5]
Hematopoietic Cell Proliferation	4 [3.3]		3 [3.0]	2 [1.5]
Hyperplasia, Lymphoid, Focal	1 [4.0]		1 [3.0]	
Necrosis	1 [3.0]	1 [3.0]		1 [3.0]
Pigmentation	44 [1.9]	45 [2.1]	42 [2.0]	45 [2.2]
Lymphoid Follicle, Atrophy			1 [2.0]	
Lymphoid Follicle, Hyperplasia	5 [2.2]	6 [1.5]	6 [2.3]	7 [1.9]
Thymus	(41)	(42)	(46)	(42)
Cyst	1 [2.0]	1 [3.0]		
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(49)	(49)	(48)	(49)
Fibrosis	1 [2.0]			1 [3.0]
Hyperplasia	17 [1.7]	18 [1.5]	13 [1.3]	13 [1.7]

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Lab: SRI

FISCHER 344 RATS MALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Duct, Ectasia	8 [2.1]	12 [1.9]	4 [1.5]	14 [2.7]
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	1	2	2	2
Fibrosis		1 [3.0]	1 [3.0]	
Hyperkeratosis	4 [4.0]	3 [3.0]	1 [4.0]	
Inflammation, Chronic	4 [1.5]			
Ulcer			1 [2.0]	
Epidermis, Hyperplasia	3 [2.7]	2 [1.5]	1 [2.0]	
Prepuce, Inflammation, Chronic		1 [3.0]		
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(50)	(50)	(50)	(50)
Femur, Osteopetrosis	2 [3.0]			
Skeletal Muscle	(1)	(4)	(0)	(0)
<b>NERVOUS SYSTEM</b>				
Brain	(50)	(50)	(50)	(50)
Compression	3 [2.7]	4 [3.3]	1 [2.0]	6 [3.2]
Degeneration	1 [1.0]			
Developmental Malformation				1 [1.0]
Gliosis, Focal				1 [2.0]
Hemorrhage	5 [1.0]	18 [1.1]	6 [1.0]	13 [1.0]
Hyperplasia	1 [2.0]	1 [1.0]		
Infiltration Cellular, Lymphocyte	1 [1.0]			
Necrosis	1 [3.0]		1 [2.0]	
Spinal Cord	(8)	(5)	(2)	(5)
<b>RESPIRATORY SYSTEM</b>				
Lung	(50)	(50)	(50)	(50)
Congestion	1 [4.0]	2 [1.5]		
Hemorrhage	1 [2.0]	2 [1.5]	4 [1.3]	
Infiltration Cellular, Histiocyte	34 [1.0]	48 [1.1]	43 [1.0]	39 [1.1]
Inflammation, Chronic	3 [1.3]	1 [1.0]	2 [1.0]	6 [1.2]
Metaplasia, Osseous	1 [1.0]	2 [1.0]		4 [1.3]
Thrombosis	1 [2.0]			

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FISCHER 344 RATS MALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Alveolar Epithelium, Hyperplasia	17 [1.5]	18 [1.6]	17 [1.8]	13 [1.5]
Nose	(50)	(50)	(50)	(50)
Foreign Body	10 [1.8]	8 [1.8]	7 [1.3]	5 [1.2]
Hemorrhage		1 [4.0]		
Inflammation, Chronic	16 [1.7]	15 [1.7]	6 [1.2]	9 [1.2]
Necrosis	1 [2.0]	1 [1.0]		
Thrombosis	3 [2.7]	1 [3.0]		
Goblet Cell, Hyperplasia		2 [2.0]	1 [2.0]	1 [2.0]
Respiratory Epithelium, Hyperplasia	6 [1.7]	6 [1.8]		1 [2.0]
Respiratory Epithelium, Metaplasia, Squamous	1 [2.0]	1 [2.0]	1 [1.0]	
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(48)	(48)	(48)	(49)
Cataract	18 [1.4]	16 [1.4]	18 [1.4]	20 [1.6]
Edema		2 [3.0]	1 [4.0]	3 [3.7]
Inflammation, Chronic			1 [1.0]	
Retinal Detachment		1 [4.0]	1 [3.0]	
Bilateral, Cataract	19 [1.9]	10 [1.7]	6 [1.3]	6 [1.7]
Retina, Degeneration	7 [3.0]	4 [3.5]	3 [3.0]	5 [2.8]
Harderian Gland	(50)	(50)	(50)	(50)
Hyperplasia, Focal	1 [1.0]	2 [1.0]	1 [1.0]	3 [2.3]
Inflammation, Chronic	3 [2.0]	2 [2.0]	2 [2.0]	4 [1.0]
Zymbal's Gland	(0)	(1)	(0)	(1)
Cyst		1		
<b>URINARY SYSTEM</b>				
Kidney	(50)	(50)	(48)	(50)
Cyst	1 [1.0]	1 [4.0]	1 [3.0]	
Inflammation, Suppurative				2 [1.0]
Metaplasia, Osseous				1 [2.0]
Mineralization	13 [1.1]	11 [1.0]	7 [1.0]	20 [1.1]
Nephropathy	46 [1.4]	47 [1.4]	42 [1.3]	46 [1.4]
Renal Tubule, Dilatation				1 [2.0]
Renal Tubule, Hyperplasia	1 [2.0]	2 [1.5]		
Renal Tubule, Necrosis	1 [2.0]			
Renal Tubule, Pigmentation		1 [4.0]	2 [2.0]	

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FISCHER 344 RATS MALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Transitional Epithelium, Hyperplasia Urinary Bladder	25 [1.2] (50)	10 [1.4] (50)	6 [1.3] (50)	18 [1.2] (50)
Transitional Epithelium, Hyperplasia	1 [2.0]	2 [1.0]		

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

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FISCHER 344 RATS FEMALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
<b>Disposition Summary</b>				
Animals Initially in Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	6	9	14	8
Natural Death	6	5	2	5
Survivors				
Natural Death		1		
Terminal Sacrifice	38	35	34	37
Animals Examined Microscopically	50	50	50	50
<b>ALIMENTARY SYSTEM</b>				
Intestine Large, Cecum	(43)	(48)	(49)	(49)
Edema				1 [4.0]
Intestine Large, Colon	(44)	(45)	(48)	(46)
Ulcer				1 [4.0]
Liver	(50)	(50)	(49)	(50)
Angiectasis	1 [2.0]	2 [2.0]	1 [3.0]	
Basophilic Focus	44	44	44	43
Clear Cell Focus	9	10	17	21
Eosinophilic Focus	5	13	11	11
Hematopoietic Cell Proliferation		2 [1.0]	1 [1.0]	
Hepatodiaphragmatic Nodule	6	5	4	5
Infiltration Cellular, Mixed Cell	37 [1.2]	34 [1.0]	36 [1.1]	39 [1.1]
Mixed Cell Focus	3	6	11	10
Necrosis, Focal	3 [1.0]	2 [1.5]		1 [1.0]
Bile Duct, Hyperplasia	37 [1.4]	10 [1.7]	10 [1.3]	8 [1.1]
Hepatocyte, Vacuolization Cytoplasmic	8 [2.4]	9 [2.2]	8 [1.9]	6 [2.3]
Hepatocyte, Vacuolization Cytoplasmic, Focal		2	1	1
Serosa, Fibrosis	1 [1.0]			
Mesentery	(10)	(10)	(4)	(8)
Accessory Spleen	1	1		2
Fat, Necrosis	8 [1.8]	8 [2.0]	4 [2.3]	6 [2.0]
Oral Mucosa	(0)	(0)	(1)	(0)
Pharyngeal, Hyperplasia			1 [2.0]	
Pancreas	(48)	(48)	(49)	(49)

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Lab: SRI

FISCHER 344 RATS FEMALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Atrophy	23 [1.4]	19 [1.6]	25 [1.2]	26 [1.3]
Metaplasia, Hepatocyte	1 [1.0]			
Acinus, Hyperplasia, Focal	2 [1.5]	1 [1.0]	2 [2.0]	1 [1.0]
Duct, Ectasia	14 [1.4]	14 [1.8]	16 [1.4]	17 [1.3]
Salivary Glands	(50)	(50)	(50)	(50)
Angiectasis	1 [2.0]			
Atrophy	12 [1.2]	10 [1.2]	13 [1.1]	16 [1.1]
Hyperplasia, Lymphoid		1 [1.0]		
Infiltration Cellular	1 [2.0]			
Stomach, Forestomach	(49)	(48)	(49)	(50)
Edema	2 [2.0]	1 [4.0]	1 [3.0]	1 [3.0]
Erosion	1 [3.0]			1 [1.0]
Inflammation, Chronic Active		1 [1.0]		
Ulcer	1 [4.0]	1 [4.0]		1 [4.0]
Epithelium, Hyperplasia	3 [2.0]	5 [1.8]	2 [2.5]	1 [3.0]
Stomach, Glandular	(49)	(47)	(49)	(49)
Edema		2 [2.0]		
Erosion	7 [1.6]	2 [1.5]	2 [2.0]	1 [2.0]
Infiltration Cellular, Mononuclear Cell	1 [1.0]			
Inflammation			1 [1.0]	
Ulcer	2 [1.5]	1 [2.0]	1 [2.0]	3 [1.7]
Epithelium, Hyperplasia			1 [3.0]	
Tongue	(0)	(1)	(1)	(0)
Hyperplasia		1 [3.0]		
<b>CARDIOVASCULAR SYSTEM</b>				
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	32 [1.1]	33 [1.0]	28 [1.3]	34 [1.2]
Thrombosis		1 [2.0]	2 [1.5]	1 [2.0]
Valve, Hyperplasia	1 [2.0]	1 [2.0]		
<b>ENDOCRINE SYSTEM</b>				
Adrenal Cortex	(48)	(48)	(49)	(50)
Accessory Adrenal Cortical Nodule	7 [1.1]	15 [1.1]	11 [1.4]	7 [1.4]
Degeneration, Fatty	16 [1.6]	17 [1.6]	24 [1.8]	22 [1.5]
Fibrosis	1 [3.0]			
Hyperplasia, Focal	21 [1.7]	21 [1.5]	21 [1.5]	29 [2.0]

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Test Type: CHRONIC

Milk thistle extract

Time Report Requested: 11:00:55

Route: DOSED FEED

CAS Number: 84604-20-6

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

Species/Strain: RATS/F 344/N

Lab: SRI

FISCHER 344 RATS FEMALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Hypertrophy, Focal	2 [1.0]	3 [1.7]	1 [1.0]	1 [1.0]
Necrosis	1 [1.0]	1 [4.0]	1 [3.0]	
Capsule, Hyperplasia			1 [1.0]	1 [1.0]
Adrenal Medulla	(48)	(48)	(48)	(50)
Hyperplasia	3 [1.3]	10 [1.6]	3 [1.7]	6 [1.8]
Infiltration Cellular, Lipocyte		1 [2.0]		
Bilateral, Hyperplasia	1 [3.0]			
Islets, Pancreatic	(48)	(48)	(49)	(49)
Hyperplasia	1 [1.0]			
Parathyroid Gland	(49)	(48)	(47)	(49)
Pituitary Gland	(50)	(50)	(50)	(50)
Pars Distalis, Angiectasis	10 [3.1]	6 [3.2]	5 [2.8]	7 [2.0]
Pars Distalis, Cyst	12 [1.9]	18 [2.1]	20 [2.1]	14 [1.7]
Pars Distalis, Cyst, Multiple		1		
Pars Distalis, Hyperplasia	1 [3.0]	2 [3.5]	1 [3.0]	2 [2.5]
Pars Distalis, Hyperplasia, Focal	12 [2.0]	9 [2.1]	5 [2.0]	8 [1.4]
Pars Distalis, Hypertrophy	2 [3.0]		4 [1.8]	
Pars Intermedia, Angiectasis	1 [3.0]	1 [1.0]		2 [3.0]
Pars Intermedia, Cyst	2 [1.5]	2 [1.5]	2 [1.0]	
Rathke's Cleft, Hemorrhage	2 [2.0]	2 [2.0]	2 [1.5]	1 [2.0]
Thyroid Gland	(47)	(49)	(49)	(50)
Degeneration, Cystic	2 [1.0]	8 [1.1]	5 [1.0]	4 [1.5]
Ultimobranchial Cyst	1 [2.0]	1 [2.0]	3 [1.3]	
C-cell, Hyperplasia	18 [1.8]	17 [1.6]	20 [2.0]	21 [1.3]
Follicular Cell, Hyperplasia, Focal		3 [1.0]		
<b>GENERAL BODY SYSTEM</b>				
Tissue NOS	(0)	(0)	(3)	(0)
Fat, Necrosis			1 [2.0]	
Fat, Mediastinum, Necrosis			1 [3.0]	
<b>GENITAL SYSTEM</b>				
Clitoral Gland	(50)	(49)	(50)	(50)
Abscess	1			1
Cyst		2 [3.5]	4 [4.0]	
Hyperplasia	7 [2.6]	3 [2.3]	8 [2.6]	7 [2.6]
Hyperplasia, Squamous			1 [4.0]	

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FISCHER 344 RATS FEMALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Inflammation, Acute	1 [1.0]		1 [4.0]	
Inflammation, Chronic	5 [2.6]	6 [2.0]	6 [1.2]	6 [1.8]
Ovary	(50)	(49)	(50)	(50)
Cyst	9 [2.4]	8 [2.6]	19 [2.3]	10 [2.2]
Granulosa Cell, Hyperplasia	1 [1.0]	2 [1.5]		
Uterus	(50)	(49)	(50)	(50)
Decidual Reaction		1 [3.0]		
Hemorrhage		1 [4.0]		
Hyperplasia, Cystic	32 [1.8]	30 [2.0]	33 [2.0]	31 [1.9]
Vagina	(2)	(2)	(3)	(5)
<b>HEMATOPOIETIC SYSTEM</b>				
Bone Marrow	(49)	(50)	(50)	(50)
Depletion Cellular			1 [3.0]	
Hyperplasia	5 [3.0]	5 [3.0]	8 [3.0]	1 [2.0]
Infiltration Cellular, Histiocyte			2 [1.5]	
Myelofibrosis			1 [2.0]	
Lymph Node	(9)	(8)	(5)	(8)
Deep Cervical, Ectasia				1 [3.0]
Deep Cervical, Hemorrhage		1 [2.0]		
Deep Cervical, Pigmentation		1 [4.0]		
Mediastinal, Ectasia		1 [2.0]		
Mediastinal, Hemorrhage	2 [2.5]	2 [3.0]	2 [3.0]	1 [3.0]
Mediastinal, Hyperplasia, Lymphoid	3 [2.3]	3 [2.7]		
Mediastinal, Hyperplasia, Plasma Cell			1 [3.0]	
Mediastinal, Infiltration Cellular, Histiocyte	1 [3.0]			
Mediastinal, Pigmentation	4 [2.8]			1 [3.0]
Pancreatic, Ectasia	1 [3.0]			
Pancreatic, Hemorrhage	1 [3.0]	1 [2.0]		1 [2.0]
Pancreatic, Hyperplasia, Lymphoid		1 [3.0]		
Pancreatic, Pigmentation	1 [3.0]			1 [3.0]
Lymph Node, Mandibular	(1)	(3)	(2)	(2)
Ectasia		1 [1.0]		
Hemorrhage			1 [1.0]	
Hyperplasia, Lymphoid		1 [2.0]	1 [2.0]	
Infiltration Cellular, Histiocyte		1 [2.0]		
Pigmentation		1 [1.0]		

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FISCHER 344 RATS FEMALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Lymph Node, Mesenteric	(49)	(48)	(50)	(50)
Ectasia	1 [2.0]	1 [2.0]	1 [2.0]	
Fibrosis	1 [2.0]			
Hemorrhage	3 [1.0]	4 [1.0]	3 [1.7]	5 [1.0]
Hyperplasia, Lymphoid	1 [2.0]	9 [1.8]	5 [1.8]	2 [2.0]
Hyperplasia, Reticulum Cell				1 [3.0]
Pigmentation	47 [1.5]	39 [1.2]	29 [1.3]	18 [1.2]
Spleen	(49)	(50)	(50)	(49)
Fibrosis				1 [3.0]
Hematopoietic Cell Proliferation	5 [1.8]	5 [2.2]	7 [1.9]	2 [1.5]
Hyperplasia, Focal	1 [3.0]			
Necrosis	1 [3.0]			1 [4.0]
Pigmentation	43 [3.2]	42 [3.0]	37 [2.7]	42 [3.0]
Lymphoid Follicle, Atrophy	1 [2.0]	1 [1.0]		1 [3.0]
Lymphoid Follicle, Hyperplasia	2 [1.5]	5 [1.6]	7 [1.9]	1 [1.0]
Thymus	(50)	(49)	(48)	(49)
Cyst			2 [2.0]	1 [1.0]
Hemorrhage	17 [1.2]	15 [1.5]	13 [1.2]	14 [1.3]
<b>INTEGUMENTARY SYSTEM</b>				
Mammary Gland	(50)	(50)	(50)	(50)
Hyperplasia	20 [2.2]	17 [1.8]	24 [2.2]	23 [2.3]
Hyperplasia, Focal	20 [1.6]	26 [1.6]	11 [1.4]	20 [1.7]
Duct, Ectasia	44 [2.2]	37 [2.0]	36 [1.9]	40 [2.1]
Duct, Hyperplasia	1 [1.0]			
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	1	1	1	1
Hyperkeratosis	1 [3.0]			2 [3.0]
Ulcer				1 [3.0]
Epidermis, Hyperplasia	1 [3.0]			2 [2.5]
<b>MUSCULOSKELETAL SYSTEM</b>				
Bone	(50)	(50)	(50)	(50)
Femur, Osteopetrosis	1 [1.0]	1 [2.0]	1 [4.0]	2 [1.5]
Skeletal Muscle	(1)	(0)	(1)	(0)

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<b>NERVOUS SYSTEM</b>				
Brain	(50)	(50)	(50)	(50)
Compression	5 [3.0]	9 [3.0]	12 [2.7]	10 [3.1]
Developmental Malformation			1 [2.0]	
Gliosis			1 [3.0]	
Hemorrhage	4 [1.0]	7 [1.1]	8 [1.0]	14 [1.1]
Mineralization				1 [1.0]
Necrosis			2 [3.5]	1 [1.0]
<b>RESPIRATORY SYSTEM</b>				
Lung	(50)	(50)	(49)	(50)
Congestion		2 [2.0]	1 [2.0]	
Hemorrhage	3 [1.3]	4 [1.5]	2 [1.5]	6 [1.7]
Hyperplasia, Lymphoid			1 [2.0]	
Infiltration Cellular, Histiocyte	45 [1.0]	44 [1.0]	45 [1.0]	45 [1.0]
Inflammation, Suppurative			1 [2.0]	
Inflammation, Chronic	1 [1.0]		2 [2.0]	10 [1.8]
Metaplasia, Osseous	1 [1.0]	1 [1.0]		1 [1.0]
Alveolar Epithelium, Hyperplasia	25 [1.4]	25 [1.3]	29 [1.3]	25 [1.6]
Nose	(50)	(50)	(49)	(50)
Foreign Body		3 [1.3]	1 [1.0]	4 [2.0]
Hemorrhage		1 [3.0]		
Inflammation, Chronic	7 [1.6]	9 [1.8]	7 [1.6]	8 [1.6]
Goblet Cell, Hyperplasia	1 [1.0]	1 [1.0]	1 [1.0]	
Nasolacrimal Duct, Cyst		1 [2.0]		1 [2.0]
Nasolacrimal Duct, Hyperplasia, Squamous		1 [3.0]	1 [2.0]	
Respiratory Epithelium, Hyperplasia	2 [1.5]	5 [1.6]	1 [2.0]	2 [2.0]
Trachea	(50)	(50)	(50)	(50)
Inflammation, Acute	1 [1.0]			
<b>SPECIAL SENSES SYSTEM</b>				
Eye	(48)	(48)	(49)	(50)
Cataract		6 [3.2]	3 [4.0]	4 [3.5]
Edema	1 [2.0]	4 [3.0]	3 [3.3]	4 [3.5]
Inflammation, Chronic		1 [1.0]	1 [1.0]	1 [2.0]

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FISCHER 344 RATS FEMALE	0 PPM	12500 PPM	25000 PPM	50000 PPM
Cornea, Hyperplasia		1 [2.0]	1 [1.0]	
Retina, Degeneration	1 [3.0]	5 [3.6]	3 [3.7]	3 [4.0]
Harderian Gland	(50)	(49)	(50)	(50)
Atrophy			1 [3.0]	
Hyperplasia, Focal	1 [1.0]	2 [1.0]		1 [3.0]
Inflammation, Chronic	12 [1.0]	7 [1.1]	10 [1.3]	12 [1.2]
Zymbal's Gland	(0)	(1)	(2)	(0)
<b>URINARY SYSTEM</b>				
Kidney	(48)	(49)	(49)	(48)
Casts Granular	1 [3.0]			
Cyst	1 [2.0]		1 [2.0]	
Infarct		3 [2.0]	1 [2.0]	1 [2.0]
Inflammation		1 [1.0]		
Inflammation, Chronic			1 [2.0]	1 [2.0]
Inflammation, Chronic Active	1 [4.0]			
Mineralization	21 [1.0]	28 [1.1]	30 [1.1]	26 [1.0]
Necrosis	1 [1.0]			
Nephropathy	36 [1.2]	45 [1.3]	43 [1.4]	42 [1.3]
Vacuolization Cytoplasmic	2 [1.5]			
Bilateral, Infarct			1 [2.0]	
Renal Tubule, Accumulation, Hyaline Droplet	1 [3.0]	4 [4.0]	6 [3.5]	1 [3.0]
Renal Tubule, Hyperplasia				1 [1.0]
Renal Tubule, Necrosis			2 [1.5]	1 [2.0]
Transitional Epithelium, Hyperplasia	3 [2.0]	3 [2.0]	4 [1.5]	4 [2.3]
Urinary Bladder	(50)	(49)	(50)	(50)

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