

**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:19  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

<b>C Number:</b>	MG96006
<b>Lock Date:</b>	Not Entered.
<b>Cage Range:</b>	All
<b>Date Range:</b>	All
<b>Reasons For Removal:</b>	All
<b>Removal Date Range:</b>	All
<b>Treatment Groups:</b>	All
<b>Study Gender:</b>	Both
<b>PWG Approval Date</b>	NONE

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CD Rat MALE	F1 0PPB	F1 2PPB	F1 10PPB	F1 50PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
<b>Disposition Summary</b>						
<b>Animals Initially In Study</b>	<b>51</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>Early Deaths</b>						
<b>Moribund Sacrifice</b>	<b>9</b>	<b>13</b>	<b>17</b>	<b>12</b>	<b>15</b>	<b>7</b>
<b>Natural Death</b>	<b>7</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>10</b>
<b>Survivors</b>						
<b>Moribund Sacrifice</b>				<b>2</b>		
<b>Natural Death</b>	<b>1</b>					
<b>Terminal Sacrifice</b>	<b>34</b>	<b>31</b>	<b>30</b>	<b>32</b>	<b>31</b>	<b>33</b>
<b>Animals Examined Microscopically</b>	<b>51</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>ALIMENTARY SYSTEM</b>						
Esophagus	(51)	(50)	(50)	(50)	(50)	(49)
Intestine Large, Cecum	(44)	(45)	(47)	(46)	(48)	(43)
Leukemia Granulocytic		1 (2%)				
Lymphoma Malignant	1 (2%)			1 (2%)		
Intestine Large, Colon	(45)	(47)	(48)	(47)	(49)	(43)
Adenoma						
Leukemia Granulocytic		2 (4%)				
Lymphoma Malignant				2 (4%)		
Intestine Large, Rectum	(45)	(45)	(47)	(46)	(49)	(42)
Anus, Sarcoma						
Intestine Small, Duodenum	(44)	(45)	(48)	(47)	(49)	(42)
Adenocarcinoma	1 (2%)				2 (4%)	
Lymphoma Malignant						
Intestine Small, Ileum	(43)	(45)	(47)	(46)	(48)	(41)
Adenocarcinoma			1 (2%)			
Lymphoma Malignant				1 (2%)		

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Intestine Small, Jejunum	(43)	(45)	(46)	(46)	(48)	(41)
Adenocarcinoma						
Lymphoma Malignant				1 (2%)		
Sarcoma		1 (2%)				
Liver	(49)	(49)	(50)	(49)	(50)	(48)
Cholangiocarcinoma			1 (2%)		1 (2%)	
Cholangioma						
Hepatocellular Adenoma		3 (6%)	1 (2%)			
Hepatocellular Carcinoma				1 (2%)		1 (2%)
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			2 (4%)	1 (2%)	2 (4%)
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Mesentery	(1)	(1)	(2)	(1)	(1)	(2)
Carcinoma, Metastatic, Uncertain Primary Site						1 (50%)
Fat, Lymphoma Malignant	1 (100%)					
Squamous Cell Carcinoma, Metastatic, Uncertain Primary Site						
Oral Mucosa	(3)	(2)	(4)	(9)	(5)	(1)
Sarcoma		1 (50%)				
Squamous Cell Carcinoma	3 (100%)		4 (100%)	7 (78%)	3 (60%)	
Pancreas	(46)	(48)	(48)	(48)	(49)	(47)
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			2 (4%)		2 (4%)
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Salivary Glands	(48)	(50)	(49)	(50)	(50)	(48)

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Leukemia Granulocytic		2 (4%)				
Lymphoma Malignant	1 (2%)					1 (2%)
Stomach, Forestomach	(47)	(48)	(49)	(48)	(50)	(46)
Squamous Cell Carcinoma						
Squamous Cell Papilloma	1 (2%)					
Stomach, Glandular	(45)	(47)	(48)	(46)	(50)	(45)
Adenoma					1 (2%)	
Tongue	(0)	(0)	(0)	(0)	(0)	(0)
<b>CARDIOVASCULAR SYSTEM</b>						
Blood Vessel	(51)	(50)	(50)	(50)	(50)	(50)
Heart	(51)	(50)	(50)	(50)	(50)	(48)
Endocardium, Schwannoma Malignant	1 (2%)	2 (4%)				
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Mesothelioma Benign			1 (2%)			
Schwannoma Benign				1 (2%)		
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(47)	(50)	(50)	(50)	(49)	(45)
Adenoma	2 (4%)	1 (2%)	2 (4%)	1 (2%)		1 (2%)
Carcinoma			2 (4%)			
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Adrenal Medulla	(46)	(48)	(49)	(49)	(49)	(45)
Bilateral, Pheochromocytoma Benign					1 (2%)	
Leukemia Granulocytic		1 (2%)				
Pheochromocytoma Benign	2 (4%)	2 (4%)	4 (8%)	1 (2%)	3 (6%)	1 (2%)

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Pheochromocytoma Complex	1 (2%)	1 (2%)	1 (2%)			
Pheochromocytoma Malignant	1 (2%)	1 (2%)	2 (4%)			
Islets, Pancreatic	(46)	(48)	(49)	(49)	(49)	(47)
Adenoma				2 (4%)		2 (4%)
Leukemia Granulocytic		1 (2%)				
Parathyroid Gland	(49)	(46)	(46)	(46)	(50)	(44)
Adenoma	4 (8%)		1 (2%)	1 (2%)	3 (6%)	1 (2%)
Leukemia Granulocytic		1 (2%)				
Pituitary Gland	(48)	(50)	(50)	(50)	(50)	(47)
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			1 (2%)		2 (4%)
Pars Distalis, Adenoma	25 (52%)	24 (48%)	28 (56%)	16 (32%)	29 (58%)	28 (60%)
Pars Intermed, Adenoma						
Schwannoma Malignant	1 (2%)					
Thyroid Gland	(47)	(49)	(50)	(49)	(50)	(47)
C Cell, Adenoma	5 (11%)		1 (2%)		3 (6%)	1 (2%)
C Cell, Carcinoma		1 (2%)			2 (4%)	
Follicular Cel, Adenoma			1 (2%)			
Follicular Cel, Carcinoma				1 (2%)		
Leukemia Granulocytic		2 (4%)				
Lymphoma Malignant				1 (2%)		1 (2%)
<b>GENERAL BODY SYSTEM</b>						
Tissue NOS	(1)	(0)	(1)	(0)	(1)	(0)
Lipoma			1 (100%)			
Sarcoma						
Schwannoma Malignant					1 (100%)	

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<b>GENITAL SYSTEM</b>						
Coagulating Gland	(46)	(49)	(49)	(49)	(49)	(47)
Carcinoma, Metastatic, Prostate, Dorsal/Lateral Lobe						1 (2%)
Carcinoma, Metastatic, Uncertain Primary Site						1 (2%)
Leukemia Granulocytic		1 (2%)				
Lymphoma Malignant	1 (2%)					
Schwannoma Malignant						
Ductus Deferens	(0)	(0)	(0)	(0)	(0)	(1)
Epididymis	(51)	(50)	(50)	(50)	(50)	(49)
Leukemia Granulocytic		1 (2%)				
Lymphoma Malignant	1 (2%)			1 (2%)	1 (2%)	1 (2%)
Mesothelioma Benign			1 (2%)			
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Penis	(0)	(1)	(0)	(0)	(1)	(1)
Squamous Cell Carcinoma, Metastatic, Preputial Gland					1 (100%)	
Preputial Gland	(51)	(50)	(50)	(50)	(50)	(50)
Adenoma					1 (2%)	
Carcinoma						
Leukemia Granulocytic		2 (4%)				
Lymphoma Malignant	1 (2%)			1 (2%)	1 (2%)	1 (2%)
Squamous Cell Carcinoma	4 (8%)	5 (10%)	5 (10%)	2 (4%)	4 (8%)	3 (6%)
Prostate, Dorsal/Lateral Lobe	(36)	(37)	(45)	(41)	(38)	(42)
Carcinoma						1 (2%)
Carcinoma, Metastatic, Uncertain Primary Site						1 (2%)

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Leukemia Granulocytic		2 (5%)				
Lymphoma Malignant	1 (3%)			1 (2%)		
Schwannoma Malignant						
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Prostate, Dorsal/lateral Lobe	(13)	(13)	(5)	(9)	(12)	(7)
Prostate, Ventral Lobe	(49)	(50)	(50)	(50)	(50)	(49)
Carcinoma						1 (2%)
Lymphoma Malignant	1 (2%)			1 (2%)		
Schwannoma Malignant						
Rete Testes	(46)	(44)	(46)	(47)	(47)	(43)
Seminal Vesicle	(43)	(46)	(47)	(47)	(49)	(43)
Adenoma	1 (2%)					
Carcinoma			1 (2%)	1 (2%)		
Carcinoma, Metastatic, Prostate, Dorsal/Lateral Lobe						1 (2%)
Carcinoma, Metastatic, Uncertain Primary Site						1 (2%)
Leukemia Granulocytic		1 (2%)				
Lymphoma Malignant						
Testes	(48)	(50)	(50)	(50)	(50)	(48)
Interstit Cell, Adenoma						
Lymphoma Malignant	1 (2%)					1 (2%)
Sarcoma					1 (2%)	
Seminoma Benign				1 (2%)		
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(46)	(48)	(48)	(48)	(50)	(46)

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Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			2 (4%)	1 (2%)	2 (4%)
Lymph Node	(14)	(16)	(16)	(15)	(19)	(14)
Axillary, Leukemia Granulocytic		1 (6%)				
Axillary, Lymphoma Malignant	1 (7%)			1 (7%)		1 (7%)
Deep Cervical, Leukemia Granulocytic		1 (6%)				
Deep Cervical, Lymphoma Malignant						1 (7%)
Inguinal, Lymphoma Malignant						1 (7%)
Lumbar, Leukemia Granulocytic		1 (6%)				
Lumbar, Lymphoma Malignant				1 (7%)		1 (7%)
Mediastinal, Lymphoma Malignant	1 (7%)					1 (7%)
Pancreatic, Leukemia Granulocytic		1 (6%)				
Pancreatic, Lymphoma Malignant				1 (7%)		
Renal, Leukemia Granulocytic		1 (6%)				
Renal, Lymphoma Malignant	1 (7%)			1 (7%)		1 (7%)
Squamous Cell Carcinoma, Metastatic, Preputial Gland					1 (5%)	
Lymph Node, Mandibular	(49)	(50)	(50)	(48)	(50)	(47)
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			2 (4%)	1 (2%)	2 (4%)
Lymph Node, Mesenteric	(45)	(46)	(49)	(47)	(50)	(44)
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			2 (4%)	1 (2%)	2 (5%)
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Spleen	(48)	(49)	(49)	(49)	(50)	(47)

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Hemangiosarcoma						
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			2 (4%)	1 (2%)	2 (4%)
Sarcoma						
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Thymus	(45)	(44)	(46)	(44)	(46)	(40)
Leukemia Granulocytic		2 (5%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			1 (2%)		1 (3%)
Sarcoma			1 (2%)	1 (2%)		
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Thymoma Benign					1 (2%)	
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(44)	(45)	(47)	(44)	(45)	(47)
Adenocarcinoma	1 (2%)					
Adenoma					1 (2%)	1 (2%)
Fibroadenoma	1 (2%)	3 (7%)	1 (2%)	2 (5%)		1 (2%)
Fibroma	1 (2%)	3 (7%)			1 (2%)	
Leukemia Granulocytic		2 (4%)				
Lipoma	1 (2%)					
Lymphoma Malignant	1 (2%)			1 (2%)		1 (2%)
Skin	(51)	(50)	(50)	(50)	(50)	(49)
Basal Cell Adenoma	1 (2%)	1 (2%)	1 (2%)			
Carcinoma						
Fibroma	2 (4%)		1 (2%)	2 (4%)		1 (2%)
Hemangioma			1 (2%)			

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Hemangioma			1 (2%)			
Keratoacanthoma	2 (4%)	3 (6%)	1 (2%)	2 (4%)	1 (2%)	2 (4%)
Lipoma					1 (2%)	
Lymphoma Malignant				1 (2%)		1 (2%)
Osteosarcoma						
Prepuce, Keratoacanthoma						1 (2%)
Prepuce, Squamous Cell Carcinoma						
Sarcoma	4 (8%)		1 (2%)		1 (2%)	
Schwannoma Malignant				1 (2%)		
Sebaceous GI, Adenoma					1 (2%)	
Squamous Cell Carcinoma		1 (2%)				1 (2%)
Squamous Cell Papilloma			1 (2%)		2 (4%)	1 (2%)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(2)	(0)	(0)	(1)	(0)	(0)
Cranium, Nerve, Squamous Cell Carcinoma, Deep Invasion						
Cranium, Osteosarcoma	1 (50%)					
Cranium, Schwannoma Malignant, Metastatic, Uncertain Primary Site	1 (50%)					
Cranium, Squamous Cell Carcinoma, Deep Invasion						
Bone, Femur	(51)	(50)	(50)	(50)	(50)	(50)
Leukemia Granulocytic		1 (2%)				
Skeletal Muscle	(1)	(1)	(1)	(2)	(2)	(0)
Diaphragm, Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Lymphoma Malignant						
<b>NERVOUS SYSTEM</b>						
Brain	(0)	(0)	(0)	(0)	(0)	(0)

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Cranial Nerve, Schwannoma Malignant						
Brain, Brain Stem	(49)	(50)	(50)	(50)	(50)	(48)
Astrocytoma Malignant	1 (2%)					
Leukemia Granulocytic		1 (2%)				
Lymphoma Malignant				1 (2%)		
Reticulosis Malignant						
Brain, Cerebellum	(49)	(50)	(50)	(50)	(50)	(48)
Astrocytoma Malignant						
Granular Cell Tumor Malignant						
Brain, Cerebrum	(49)	(50)	(50)	(50)	(50)	(48)
Astrocytoma Malignant	1 (2%)					
Granular Cell Tumor Benign		1 (2%)				
Granular Cell Tumor Malignant		1 (2%)	1 (2%)			
Lymphoma Malignant	1 (2%)					
Meninges, Granular Cell Tumor Benign						
Osteoma						
Reticulosis Malignant					1 (2%)	
Peripheral Nerve	(0)	(1)	(1)	(2)	(2)	(0)
<b>RESPIRATORY SYSTEM</b>						
Lung	(46)	(46)	(48)	(48)	(50)	(45)
Alveolar/Bronchiolar Adenoma	1 (2%)					
Alveolar/Bronchiolar Carcinoma					1 (2%)	
Carcinoma, Metastatic, Adrenal Cortex			1 (2%)			
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			2 (4%)		2 (4%)
Sarcoma, Metastatic, Thymus				1 (2%)		
Schwannoma Malignant, Metastatic, Skin						

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**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:20  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat MALE	F1 0PPB	F1 2PPB	F1 10PPB	F1 50PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Squamous Cell Carcinoma, Metastatic, Preputial Gland		1 (2%)				
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Squamous Cell Carcinoma, Metastatic, Uncertain Primary Site						
Thymoma Malignant, Metastatic, Uncertain Primary Site						
Nose	(48)	(49)	(50)	(49)	(49)	(48)
Adenoma	1 (2%)					
Leukemia Granulocytic		2 (4%)				
Lymphoma Malignant	1 (2%)			1 (2%)	1 (2%)	2 (4%)
Osteosarcoma		1 (2%)				
Schwannoma Malignant			1 (2%)			
Trachea	(49)	(50)	(50)	(50)	(50)	(46)
Leukemia Granulocytic		2 (4%)				
Lymphoma Malignant	1 (2%)					
<b>SPECIAL SENSES SYSTEM</b>						
Ear	(0)	(0)	(0)	(0)	(0)	(0)
Neural Crest Tumor						
Squamous Cell Papilloma						
Eye	(46)	(46)	(47)	(46)	(49)	(45)
Iris, Melanoma Benign						
Leukemia Granulocytic		2 (4%)				
Lymphoma Malignant	1 (2%)			1 (2%)		2 (4%)
Retrobulbar, Squamous Cell Carcinoma, Deep Invasion				1 (2%)		
Schwannoma Malignant			1 (2%)			
Harderian Gland	(48)	(47)	(48)	(48)	(50)	(46)

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

b - Primary tumors: all tumors except metastatic tumors

\* Number of animals with any tissue examined microscopically

**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
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**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat MALE	F1 0PPB	F1 2PPB	F1 10PPB	F1 50PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Leukemia Granulocytic		2 (4%)				
Lymphoma Malignant	1 (2%)			1 (2%)		1 (2%)
Schwannoma Malignant			1 (2%)			
Squamous Cell Carcinoma, Deep Invasion					1 (2%)	
Lacrimal Gland	(0)	(0)	(0)	(2)	(0)	(1)
Lymphoma Malignant				1 (50%)		
Zymbal's Gland	(1)	(0)	(0)	(2)	(1)	(0)
Adenoma					1 (100%)	
Carcinoma	1 (100%)			1 (50%)		
Squamous Cell Carcinoma				1 (50%)		
<b>URINARY SYSTEM</b>						
Kidney	(46)	(49)	(48)	(49)	(49)	(47)
Bilateral, Renal Tubule, Adenoma					1 (2%)	
Bilateral, Renal Tubule, Carcinoma		1 (2%)		1 (2%)		
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Liposarcoma						
Lymphoma Malignant	1 (2%)			2 (4%)		2 (4%)
Mesenchymal Tumor Malignant				1 (2%)	1 (2%)	
Renal Tubule, Adenoma					2 (4%)	
Renal Tubule, Carcinoma					1 (2%)	
Sarcoma						
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach						
Transit Epithe, Papilloma	1 (2%)					
Urethra	(2)	(2)	(0)	(2)	(1)	(5)
Urinary Bladder	(45)	(48)	(49)	(49)	(49)	(45)

**SYSTEMIC LESIONS**

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

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\* Number of animals with any tissue examined microscopically

**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
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**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat MALE	F1 0PPB	F1 2PPB	F1 10PPB	F1 50PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Multiple Organ	*(51)	*(50)	*(50)	*(50)	*(50)	*(50)
Leukemia Granulocytic		2 (4%)				
Leukemia Mononuclear						
Lymphoma Malignant	1 (2%)			2 (4%)	1 (2%)	2 (4%)
Mesothelioma Benign			2 (4%)			

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Experiment Number: 99920-92  
 Test Type: MULTIGEN CHRONIC  
 Route: DOSED FEED  
 Species/Strain: Rat/CD

P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)  
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 CAS Number: 57-63-6

Date Report Requested: 10/23/2014  
 Time Report Requested: 12:47:20  
 First Dose M/F: NA / NA  
 Lab: NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
<b>Disposition Summary</b>					
Animals Initially In Study	50	50	49	50	50
<b>Early Deaths</b>					
Moribund Sacrifice	14	5	3	4	3
Natural Death	3	4	3	4	2
<b>Survivors</b>					
Moribund Sacrifice		8	13	9	9
Natural Death		3	3	2	1
Terminal Sacrifice	33	30	27	31	35
Animals Examined Microscopically	50	50	49	50	50
<b>ALIMENTARY SYSTEM</b>					
Esophagus	(50)	(50)	(48)	(50)	(50)
Intestine Large, Cecum	(46)	(45)	(43)	(47)	(47)
Leukemia Granulocytic					
Lymphoma Malignant				1 (2%)	
Intestine Large, Colon	(48)	(45)	(43)	(48)	(48)
Adenoma		2 (4%)		1 (2%)	
Leukemia Granulocytic					
Lymphoma Malignant				1 (2%)	
Intestine Large, Rectum	(48)	(45)	(44)	(48)	(48)
Anus, Sarcoma				1 (2%)	
Intestine Small, Duodenum	(47)	(44)	(43)	(47)	(47)
Adenocarcinoma		2 (5%)			
Lymphoma Malignant		1 (2%)			
Intestine Small, Ileum	(45)	(44)	(38)	(47)	(47)
Adenocarcinoma					
Lymphoma Malignant					

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\* Number of animals with any tissue examined microscopically

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**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
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**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
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**Lab:** NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Intestine Small, Jejunum	(48)	(44)	(41)	(45)	(46)
Adenocarcinoma	1 (2%)				
Lymphoma Malignant					
Sarcoma					
Liver	(49)	(49)	(47)	(50)	(49)
Cholangiocarcinoma	1 (2%)	2 (4%)			
Cholangioma		1 (2%)		1 (2%)	
Hepatocellular Adenoma	1 (2%)	1 (2%)			1 (2%)
Hepatocellular Carcinoma	1 (2%)				
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)	1 (2%)	
Lymphoma Malignant		1 (2%)	1 (2%)	1 (2%)	
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
Mesentery	(0)	(4)	(0)	(6)	(3)
Carcinoma, Metastatic, Uncertain Primary Site					
Fat, Lymphoma Malignant					
Squamous Cell Carcinoma, Metastatic, Uncertain Primary Site				1 (17%)	
Oral Mucosa	(6)	(3)	(8)	(4)	(6)
Sarcoma					
Squamous Cell Carcinoma	4 (67%)	3 (100%)	4 (50%)	1 (25%)	5 (83%)
Pancreas	(50)	(47)	(48)	(49)	(49)
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Lymphoma Malignant		1 (2%)			
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
Salivary Glands	(49)	(48)	(49)	(49)	(50)

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**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
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CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)		1 (2%)	
Stomach, Forestomach	(49)	(46)	(48)	(49)	(49)
Squamous Cell Carcinoma			1 (2%)		
Squamous Cell Papilloma					
Stomach, Glandular	(49)	(45)	(46)	(47)	(47)
Adenoma					
Tongue	(1)	(0)	(0)	(0)	(0)
<b>CARDIOVASCULAR SYSTEM</b>					
Blood Vessel	(50)	(50)	(49)	(50)	(50)
Heart	(50)	(50)	(49)	(50)	(50)
Endocardium, Schwannoma Malignant			1 (2%)		
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Mesothelioma Benign					
Schwannoma Benign					
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
<b>ENDOCRINE SYSTEM</b>					
Adrenal Cortex	(50)	(49)	(49)	(49)	(50)
Adenoma	1 (2%)	1 (2%)	1 (2%)	1 (2%)	
Carcinoma					
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Adrenal Medulla	(50)	(49)	(48)	(49)	(50)
Bilateral, Pheochromocytoma Benign				1 (2%)	
Leukemia Granulocytic					
Pheochromocytoma Benign	1 (2%)	4 (8%)	4 (8%)	5 (10%)	1 (2%)

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**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
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**Lab:** NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Pheochromocytoma Complex					
Pheochromocytoma Malignant		1 (2%)		2 (4%)	1 (2%)
Islets, Pancreatic	(50)	(48)	(48)	(50)	(50)
Adenoma		2 (4%)	1 (2%)	3 (6%)	1 (2%)
Leukemia Granulocytic					
Parathyroid Gland	(50)	(47)	(44)	(50)	(46)
Adenoma		1 (2%)	1 (2%)		
Leukemia Granulocytic					
Pituitary Gland	(49)	(49)	(48)	(49)	(50)
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Lymphoma Malignant		1 (2%)	1 (2%)	1 (2%)	
Pars Distalis, Adenoma	24 (49%)	24 (49%)	20 (42%)	18 (37%)	26 (52%)
Pars Intermed, Adenoma			1 (2%)	1 (2%)	
Schwannoma Malignant					
Thyroid Gland	(49)	(48)	(49)	(50)	(50)
C Cell, Adenoma	1 (2%)			1 (2%)	
C Cell, Carcinoma	1 (2%)	3 (6%)		3 (6%)	1 (2%)
Follicular Cel, Adenoma			1 (2%)		
Follicular Cel, Carcinoma					
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)		1 (2%)	
<b>GENERAL BODY SYSTEM</b>					
Tissue NOS	(0)	(0)	(0)	(0)	(1)
Lipoma					
Sarcoma					1 (100%)
Schwannoma Malignant					

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CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
<b>GENITAL SYSTEM</b>					
Coagulating Gland	(48)	(47)	(49)	(48)	(50)
Carcinoma, Metastatic, Prostate, Dorsal/Lateral Lobe					
Carcinoma, Metastatic, Uncertain Primary Site					1 (2%)
Leukemia Granulocytic					
Lymphoma Malignant					
Schwannoma Malignant					1 (2%)
Ductus Deferens	(0)	(0)	(0)	(0)	(1)
Epididymis	(50)	(49)	(49)	(50)	(50)
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)			
Mesothelioma Benign					
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
Penis	(0)	(0)	(0)	(0)	(1)
Squamous Cell Carcinoma, Metastatic, Preputial Gland					
Preputial Gland	(50)	(49)	(49)	(50)	(49)
Adenoma					
Carcinoma			1 (2%)		1 (2%)
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)			
Squamous Cell Carcinoma	1 (2%)	2 (4%)	3 (6%)	4 (8%)	7 (14%)
Prostate, Dorsal/Lateral Lobe	(38)	(43)	(38)	(41)	(43)
Carcinoma					
Carcinoma, Metastatic, Uncertain Primary Site					

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**Lab:** NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)			
Schwannoma Malignant					1 (2%)
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (3%)		
Prostate, Dorsal/lateral Lobe	(12)	(7)	(10)	(9)	(7)
Prostate, Ventral Lobe	(50)	(49)	(48)	(50)	(50)
Carcinoma					
Lymphoma Malignant		1 (2%)			
Schwannoma Malignant					1 (2%)
Rete Testes	(46)	(46)	(45)	(43)	(44)
Seminal Vesicle	(48)	(44)	(44)	(47)	(47)
Adenoma					
Carcinoma					
Carcinoma, Metastatic, Prostate, Dorsal/Lateral Lobe					
Carcinoma, Metastatic, Uncertain Primary Site					
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)		1 (2%)	
Testes	(50)	(50)	(49)	(50)	(50)
Interstit Cell, Adenoma			1 (2%)		1 (2%)
Lymphoma Malignant		1 (2%)			
Sarcoma					
Seminoma Benign					
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
<b>HEMATOPOIETIC SYSTEM</b>					
Bone Marrow	(49)	(49)	(49)	(50)	(50)

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**Species/Strain:** Rat/CD

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CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Lymphoma Malignant		1 (2%)	1 (2%)	1 (2%)	
Lymph Node	(19)	(14)	(16)	(13)	(16)
Axillary, Leukemia Granulocytic					
Axillary, Lymphoma Malignant		1 (7%)		1 (8%)	
Deep Cervical, Leukemia Granulocytic					
Deep Cervical, Lymphoma Malignant					
Inguinal, Lymphoma Malignant		1 (7%)			
Lumbar, Leukemia Granulocytic					
Lumbar, Lymphoma Malignant				1 (8%)	
Mediastinal, Lymphoma Malignant		1 (7%)	1 (6%)	1 (8%)	
Pancreatic, Leukemia Granulocytic					
Pancreatic, Lymphoma Malignant					
Renal, Leukemia Granulocytic					
Renal, Lymphoma Malignant				1 (8%)	
Squamous Cell Carcinoma, Metastatic, Preputial Gland					
Lymph Node, Mandibular	(50)	(46)	(48)	(50)	(49)
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Lymphoma Malignant		1 (2%)	1 (2%)	1 (2%)	
Lymph Node, Mesenteric	(48)	(44)	(46)	(49)	(48)
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Lymphoma Malignant		1 (2%)		1 (2%)	
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
Spleen	(50)	(49)	(48)	(49)	(50)

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CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Hemangiosarcoma	1 (2%)				
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)	1 (2%)	
Lymphoma Malignant		1 (2%)	1 (2%)	1 (2%)	
Sarcoma					1 (2%)
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
Thymus	(47)	(47)	(45)	(47)	(45)
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Lymphoma Malignant		2 (4%)		1 (2%)	
Sarcoma					
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
Thymoma Benign					
<b>INTEGUMENTARY SYSTEM</b>					
Mammary Gland	(48)	(42)	(42)	(40)	(45)
Adenocarcinoma					2 (4%)
Adenoma	2 (4%)				1 (2%)
Fibroadenoma	1 (2%)		2 (5%)		1 (2%)
Fibroma	1 (2%)	1 (2%)	1 (2%)		
Leukemia Granulocytic					
Lipoma					
Lymphoma Malignant					
Skin	(50)	(50)	(49)	(50)	(50)
Basal Cell Adenoma	2 (4%)	2 (4%)		1 (2%)	
Carcinoma					1 (2%)
Fibroma				1 (2%)	2 (4%)
Hemangioma					

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**Lab:** NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Hemangioma					
Keratoacanthoma	1 (2%)		2 (4%)	3 (6%)	1 (2%)
Lipoma			2 (4%)		2 (4%)
Lymphoma Malignant					
Osteosarcoma	1 (2%)				
Prepuce, Keratoacanthoma					
Prepuce, Squamous Cell Carcinoma	1 (2%)				
Sarcoma		1 (2%)			1 (2%)
Schwannoma Malignant				1 (2%)	
Sebaceous GI, Adenoma					
Squamous Cell Carcinoma	1 (2%)				
Squamous Cell Papilloma					
<b>MUSCULOSKELETAL SYSTEM</b>					
Bone	(1)	(0)	(1)	(1)	(0)
Cranium, Nerve, Squamous Cell Carcinoma, Deep Invasion	1 (100%)				
Cranium, Osteosarcoma					
Cranium, Schwannoma Malignant, Metastatic, Uncertain Primary Site					
Cranium, Squamous Cell Carcinoma, Deep Invasion			1 (100%)		
Bone, Femur	(50)	(49)	(49)	(50)	(50)
Leukemia Granulocytic					
Skeletal Muscle	(1)	(3)	(4)	(3)	(0)
Diaphragm, Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (25%)		
Lymphoma Malignant		1 (33%)			
<b>NERVOUS SYSTEM</b>					
Brain	(0)	(0)	(0)	(0)	(1)

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**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:21  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Cranial Nerve, Schwannoma Malignant					1 (100%)
Brain, Brain Stem	(50)	(49)	(49)	(50)	(50)
Astrocytoma Malignant	1 (2%)				
Leukemia Granulocytic					
Lymphoma Malignant					
Reticulosis Malignant					1 (2%)
Brain, Cerebellum	(50)	(49)	(49)	(50)	(50)
Astrocytoma Malignant	1 (2%)				
Granular Cell Tumor Malignant				1 (2%)	
Brain, Cerebrum	(50)	(49)	(49)	(50)	(50)
Astrocytoma Malignant	1 (2%)				
Granular Cell Tumor Benign	1 (2%)				
Granular Cell Tumor Malignant				1 (2%)	
Lymphoma Malignant					
Meninges, Granular Cell Tumor Benign					1 (2%)
Osteoma		1 (2%)			
Reticulosis Malignant					
Peripheral Nerve	(0)	(2)	(4)	(2)	(0)
<b>RESPIRATORY SYSTEM</b>					
Lung	(50)	(47)	(48)	(48)	(50)
Alveolar/Bronchiolar Adenoma				1 (2%)	
Alveolar/Bronchiolar Carcinoma					
Carcinoma, Metastatic, Adrenal Cortex					
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)	1 (2%)	
Lymphoma Malignant		1 (2%)		1 (2%)	
Sarcoma, Metastatic, Thymus					
Schwannoma Malignant, Metastatic, Skin				1 (2%)	

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

b - Primary tumors: all tumors except metastatic tumors

\* Number of animals with any tissue examined microscopically



**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:21  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Squamous Cell Carcinoma, Metastatic, Preputial Gland					
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
Squamous Cell Carcinoma, Metastatic, Uncertain Primary Site				1 (2%)	
Thymoma Malignant, Metastatic, Uncertain Primary Site					1 (2%)
Nose	(50)	(49)	(48)	(49)	(50)
Adenoma					
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)			
Osteosarcoma					1 (2%)
Schwannoma Malignant					
Trachea	(50)	(49)	(49)	(50)	(50)
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)			
<b>SPECIAL SENSES SYSTEM</b>					
Ear	(0)	(0)	(0)	(1)	(1)
Neural Crest Tumor					1 (100%)
Squamous Cell Papilloma				1 (100%)	
Eye	(48)	(46)	(47)	(48)	(50)
Iris, Melanoma Benign					1 (2%)
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)		1 (2%)	
Retrolbulbar, Squamous Cell Carcinoma, Deep Invasion		1 (2%)			
Schwannoma Malignant					
Harderian Gland	(50)	(49)	(48)	(50)	(50)

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b - Primary tumors: all tumors except metastatic tumors

\* Number of animals with any tissue examined microscopically

**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
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**Lab:** NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
Leukemia Granulocytic					
Lymphoma Malignant		1 (2%)		1 (2%)	
Schwannoma Malignant					
Squamous Cell Carcinoma, Deep Invasion	1 (2%)				
Lacrimal Gland	(1)	(1)	(1)	(2)	(1)
Lymphoma Malignant		1 (100%)		1 (50%)	
Zymbal's Gland	(0)	(1)	(0)	(2)	(0)
Adenoma					
Carcinoma		1 (100%)		1 (50%)	
Squamous Cell Carcinoma				1 (50%)	
<b>URINARY SYSTEM</b>					
Kidney	(49)	(49)	(48)	(50)	(50)
Bilateral, Renal Tubule, Adenoma	2 (4%)				
Bilateral, Renal Tubule, Carcinoma					
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)		
Liposarcoma					1 (2%)
Lymphoma Malignant		1 (2%)		1 (2%)	
Mesenchymal Tumor Malignant					
Renal Tubule, Adenoma					
Renal Tubule, Carcinoma					
Sarcoma	1 (2%)		1 (2%)		
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach			1 (2%)		
Transit Epithe, Papilloma					
Urethra	(1)	(3)	(1)	(1)	(0)
Urinary Bladder	(49)	(49)	(48)	(49)	(50)

**SYSTEMIC LESIONS**

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

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**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:22  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

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<b>CD Rat MALE</b>	<b>F1/50PPB TO CTL</b>	<b>F3 0PPB</b>	<b>F3/2PPB TO CTL</b>	<b>F3/10 PPB TO CTL</b>	<b>F3/50 PPB TO CTL</b>
Multiple Organ	*(50)	*(50)	*(49)	*(50)	*(50)
Leukemia Granulocytic					
Leukemia Mononuclear			1 (2%)	1 (2%)	
Lymphoma Malignant		2 (4%)	1 (2%)	1 (2%)	
Mesothelioma Benign					

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

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Experiment Number: 99920-92  
 Test Type: MULTIGEN CHRONIC  
 Route: DOSED FEED  
 Species/Strain: Rat/CD

P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)  
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014  
 Time Report Requested: 12:47:22  
 First Dose M/F: NA / NA  
 Lab: NCTR

CD Rat MALE	F1 0PPB	F1 2PPB	F1 10PPB	F1 50PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
<b>Tumor Summary for MALE</b>						
Total Animals with Primary Neoplasms (b)	42	36	43	35	41	33
Total Primary Neoplasms	73	59	70	50	74	50
Total Animals with Benign Neoplasms	36	29	34	23	37	29
Total Benign Neoplasms	51	41	45	29	53	41
Total Animals with Malignant Neoplasms	19	15	19	19	17	8
Total Malignant Neoplasms	22	18	23	21	21	9
Total Animals with Metastatic Neoplasms	1	1	1	1	2	2
Total Metastatic Neoplasms	1	1	1	1	2	6
Total Animals with Malignant Neoplasms Uncertain Primary Site	1					1
Total Animals with Neoplasms Uncertain - Benign or Malignant						
Total Uncertain Neoplasms						

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**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
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**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat MALE	F1/50PPB TO CTL	F3 0PPB	F3/2PPB TO CTL	F3/10 PPB TO CTL	F3/50 PPB TO CTL
<b>Tumor Summary for MALE</b>					
<b>Total Animals with Primary Neoplasms (b)</b>	<b>35</b>	<b>41</b>	<b>34</b>	<b>31</b>	<b>37</b>
<b>Total Primary Neoplasms</b>	<b>57</b>	<b>58</b>	<b>51</b>	<b>57</b>	<b>68</b>
<b>Total Animals with Benign Neoplasms</b>	<b>29</b>	<b>33</b>	<b>30</b>	<b>25</b>	<b>31</b>
<b>Total Benign Neoplasms</b>	<b>38</b>	<b>40</b>	<b>37</b>	<b>39</b>	<b>39</b>
<b>Total Animals with Malignant Neoplasms</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>14</b>	<b>19</b>
<b>Total Malignant Neoplasms</b>	<b>19</b>	<b>18</b>	<b>14</b>	<b>18</b>	<b>28</b>
<b>Total Animals with Metastatic Neoplasms</b>			<b>1</b>	<b>2</b>	<b>2</b>
<b>Total Metastatic Neoplasms</b>			<b>12</b>	<b>3</b>	<b>2</b>
<b>Total Animals with Malignant Neoplasms Uncertain Primary Site</b>				<b>1</b>	<b>2</b>
<b>Total Animals with Neoplasms Uncertain - Benign or Malignant</b>					<b>1</b>
<b>Total Uncertain Neoplasms</b>					<b>1</b>

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

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Experiment Number: 99920-92  
 Test Type: MULTIGEN CHRONIC  
 Route: DOSED FEED  
 Species/Strain: Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

Date Report Requested: 10/23/2014  
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 First Dose M/F: NA / NA  
 Lab: NCTR

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
<b>Disposition Summary</b>						
Animals Initially In Study	51	50	50	50	50	50
Early Deaths						
Moribund Sacrifice	24	22	27	17	26	27
Natural Death		5	3	8	7	1
Survivors						
Moribund Sacrifice	1		1		1	
Natural Death						
Terminal Sacrifice	26	23	19	25	16	22
Animals Examined Microscopically	51	50	50	50	50	50
<b>ALIMENTARY SYSTEM</b>						
Esophagus	(51)	(50)	(49)	(50)	(50)	(50)
Intestine Large, Cecum	(51)	(50)	(49)	(49)	(50)	(50)
Lymphoid Tiss, Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant						1 (2%)
Intestine Large, Colon	(51)	(50)	(49)	(49)	(50)	(50)
Carcinoma					1 (2%)	
Lymphoid Tiss, Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					1 (2%)	1 (2%)
Intestine Large, Rectum	(51)	(50)	(49)	(50)	(50)	(50)
Adenoma						
Granular Cell Tumor Malignant, Metastatic, Vagina				1 (2%)		
Leiomyosarcoma, Metastatic, Uterus		1 (2%)				
Intestine Small, Duodenum	(51)	(50)	(49)	(49)	(50)	(50)
Leiomyoma						
Lymphoma Malignant						1 (2%)
Intestine Small, Ileum	(51)	(50)	(48)	(49)	(48)	(50)

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**Date Report Requested:** 10/23/2014  
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**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Lymphoma Malignant						1 (2%)
Intestine Small, Jejunum	(51)	(50)	(47)	(47)	(48)	(50)
Carcinoma						
Leiomyoma						1 (2%)
Lymphoma Malignant						1 (2%)
Liver	(51)	(50)	(49)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus						
Carcinoma, Metastatic, Intestine Small, Jejunum						
Cholangiocarcinoma	1 (2%)					
Cholangioma						
Hepatocellular Adenoma	1 (2%)	1 (2%)	1 (2%)	2 (4%)	1 (2%)	1 (2%)
Hepatocellular Adenoma, Multiple						
Hepatocellular Carcinoma						
Histiocytic Sarcoma						
Leukemia Mononuclear				1 (2%)		
Leukemia Mononuclear, Metastatic, Spleen						
Lymphoma Malignant				1 (2%)	2 (4%)	1 (2%)
Mesothelioma Malignant						
Nephroblastoma, Metastatic, Kidney						
Mesentery	(2)	(2)	(0)	(1)	(2)	(1)
Adenocarcinoma, Metastatic, Uterus						
Leiomyosarcoma, Metastatic, Uterus		1 (50%)				
Lymphoma Malignant						
Mesothelioma Malignant						1 (100%)
Nephroblastoma, Metastatic, Kidney						
Oral Mucosa	(3)	(1)	(4)	(4)	(5)	(7)
Fibrous Histiocytoma						
Lymphoma Malignant						1 (14%)

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**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
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**First Dose M/F:** NA / NA  
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CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Squamous Cell Carcinoma	3 (100%)	1 (100%)	1 (25%)	2 (50%)	3 (60%)	2 (29%)
Pancreas	(51)	(50)	(49)	(49)	(50)	(50)
Acinar Cell, Adenocarcinoma				1 (2%)		
Acinar Cell, Adenoma		1 (2%)				
Adenocarcinoma, Metastatic, Uterus						
Lymphoma Malignant					2 (4%)	1 (2%)
Salivary Glands	(51)	(49)	(49)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					2 (4%)	1 (2%)
Stomach, Forestomach	(51)	(50)	(49)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus						
Lymphoma Malignant						1 (2%)
Squamous Cell Carcinoma						
Squamous Cell Papilloma	1 (2%)		1 (2%)		1 (2%)	
Stomach, Glandular	(51)	(50)	(49)	(50)	(50)	(50)
Leiomyosarcoma						
Tongue	(0)	(0)	(0)	(0)	(0)	(0)
Tooth	(0)	(0)	(0)	(0)	(1)	(0)
<b>CARDIOVASCULAR SYSTEM</b>						
Blood Vessel	(51)	(50)	(49)	(50)	(50)	(50)
Heart	(51)	(50)	(49)	(50)	(50)	(50)
Endocardium, Schwannoma Malignant		1 (2%)				
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					1 (2%)	
<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(51)	(50)	(49)	(50)	(50)	(50)
Adenoma	1 (2%)	2 (4%)	1 (2%)	1 (2%)	1 (2%)	2 (4%)

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

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant						1 (2%)
Adrenal Medulla	(48)	(50)	(49)	(50)	(49)	(48)
Leukemia Mononuclear				1 (2%)		
Pheochromocytoma Benign	2 (4%)					1 (2%)
Islets, Pancreatic	(51)	(50)	(49)	(49)	(50)	(50)
Adenoma	1 (2%)	1 (2%)		1 (2%)		
Carcinoma			1 (2%)	1 (2%)		
Lymphoma Malignant					2 (4%)	1 (2%)
Parathyroid Gland	(48)	(47)	(46)	(43)	(46)	(44)
Adenoma		1 (2%)		1 (2%)		
Carcinoma, Metastatic, Thyroid Gland		1 (2%)				
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant						1 (2%)
Pituitary Gland	(51)	(50)	(50)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant						1 (2%)
Pars Distalis, Adenoma	38 (75%)	35 (70%)	40 (80%)	37 (74%)	37 (74%)	36 (72%)
Pars Distalis, Carcinoma		1 (2%)		1 (2%)	1 (2%)	1 (2%)
Pars Nervosa, Schwannoma Malignant, Metastatic, Nose				1 (2%)		
Thyroid Gland	(51)	(50)	(49)	(50)	(50)	(50)
Bilateral, C Cell, Adenoma						
Bilateral, C Cell, Carcinoma		1 (2%)				
C Cell, Adenoma	2 (4%)	3 (6%)	1 (2%)	1 (2%)	1 (2%)	3 (6%)
C Cell, Carcinoma					1 (2%)	
Follicular Cel, Adenoma	1 (2%)				1 (2%)	
Follicular Cel, Carcinoma					2 (4%)	
Leukemia Mononuclear				1 (2%)		

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CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Lymphoma Malignant					2 (4%)	1 (2%)
<b>GENERAL BODY SYSTEM</b>						
Tissue NOS	(0)	(0)	(1)	(0)	(0)	(0)
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung						
Sarcoma			1 (100%)			
Squamous Cell Carcinoma, Deep Invasion						
<b>GENITAL SYSTEM</b>						
Clitoral Gland	(50)	(49)	(48)	(50)	(50)	(49)
Adenoma				2 (4%)		
Carcinoma		1 (2%)		1 (2%)	1 (2%)	
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					2 (4%)	1 (2%)
Sarcoma					1 (2%)	
Squamous Cell Carcinoma		1 (2%)		1 (2%)		
Squamous Cell Papilloma	1 (2%)					
Ovary	(51)	(50)	(49)	(50)	(50)	(50)
Carcinoma, Metastatic, Kidney					1 (2%)	
Granulosa Cell Tumor Benign			1 (2%)		1 (2%)	
Granulosa Cell Tumor Malignant						
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					1 (2%)	1 (2%)
Mesothelioma Malignant						
Sertoli Cell Tumor Benign	1 (2%)	1 (2%)	1 (2%)			
Oviduct	(51)	(50)	(49)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant						1 (2%)
Uterus	(51)	(50)	(49)	(50)	(50)	(50)

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**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
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**Lab:** NCTR

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Cervix, Squamous Cell Carcinoma				1 (2%)		
Endometrium, Adenocarcinoma		1 (2%)				
Endometrium, Adenoma	1 (2%)			2 (4%)	1 (2%)	2 (4%)
Fibrous Histiocytoma						1 (2%)
Leiomyoma		1 (2%)				
Leiomyosarcoma		1 (2%)				
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					1 (2%)	1 (2%)
Nephroblastoma, Metastatic, Kidney						
Polyp Stromal	2 (4%)	4 (8%)	5 (10%)	5 (10%)	5 (10%)	6 (12%)
Sarcoma Stromal						1 (2%)
Vagina	(51)	(50)	(49)	(49)	(50)	(48)
Granular Cell Tumor Benign			1 (2%)			
Granular Cell Tumor Malignant				1 (2%)		
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					1 (2%)	1 (2%)
Nephroblastoma, Metastatic, Kidney						
Polyp		1 (2%)	1 (2%)		1 (2%)	
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(51)	(50)	(49)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant				1 (2%)	1 (2%)	1 (2%)
Schwannoma Malignant, Metastatic, Skin						
Lymph Node	(16)	(14)	(6)	(10)	(15)	(12)
Axillary, Lymphoma Malignant				1 (10%)		1 (8%)
Carcinoma, Metastatic, Thyroid Gland					1 (7%)	
Deep Cervical, Carcinoma, Metastatic, Thyroid Gland					1 (7%)	

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

b - Primary tumors: all tumors except metastatic tumors

\* Number of animals with any tissue examined microscopically

**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:23  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Deep Cervical, Lymphoma Malignant				1 (10%)		1 (8%)
Inguinal, Lymphoma Malignant						1 (8%)
Lumbar, Leukemia Mononuclear				1 (10%)		
Lumbar, Lymphoma Malignant				1 (10%)	1 (7%)	1 (8%)
Mediastinal, Lymphoma Malignant				1 (10%)	1 (7%)	1 (8%)
Pancreatic, Lymphoma Malignant				1 (10%)		
Popliteal, Lymphoma Malignant				1 (10%)		
Renal, Leukemia Mononuclear				1 (10%)		
Renal, Lymphoma Malignant				1 (10%)		1 (8%)
Lymph Node, Mandibular Carcinoma, Metastatic, Zymbal'S Gland	(51)	(50)	(49)	(50)	(50)	(49)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant				1 (2%)	2 (4%)	1 (2%)
Lymph Node, Mesenteric	(51)	(50)	(47)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant				1 (2%)	2 (4%)	1 (2%)
Nephroblastoma, Metastatic, Kidney						
Spleen	(51)	(50)	(49)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant				1 (2%)	1 (2%)	1 (2%)
Mesothelioma Malignant						
Sarcoma				1 (2%)		
Thymus	(51)	(44)	(45)	(48)	(44)	(46)
Histiocytic Sarcoma						
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant				1 (2%)	1 (2%)	1 (2%)
Thymoma Benign						

INTEGUMENTARY SYSTEM

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

b - Primary tumors: all tumors except metastatic tumors

\* Number of animals with any tissue examined microscopically

**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:23  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Mammary Gland	(51)	(49)	(49)	(50)	(49)	(50)
Adenocarcinoma	5 (10%)	9 (18%)	9 (18%)	6 (12%)	3 (6%)	8 (16%)
Adenocarcinoma, Multiple	3 (6%)	1 (2%)		3 (6%)		
Fibroadenoma	18 (35%)	14 (29%)	18 (37%)	22 (44%)	16 (33%)	15 (30%)
Fibroadenoma, Multiple	14 (27%)	14 (29%)	15 (31%)	5 (10%)	10 (20%)	13 (26%)
Lymphoma Malignant				1 (2%)	2 (4%)	1 (2%)
Skin	(51)	(50)	(49)	(50)	(50)	(50)
Basal Cell Adenoma						
Basal Cell Carcinoma						1 (2%)
Ear, Basal Cell Adenoma						
Fibroma						
Fibrous Histiocytoma						1 (2%)
Histiocytic Sarcoma						
Keratoacanthoma				1 (2%)		1 (2%)
Lipoma						
Lymphoma Malignant					2 (4%)	
Sarcoma		1 (2%)				
Schwannoma Malignant						
Sebaceous Gl, Carcinoma	1 (2%)					
Squamous Cell Papilloma	1 (2%)					
Subcut Tiss, Granular Cell Tumor Benign						
Subcut Tiss, Leiomyosarcoma, Metastatic, Uterus		1 (2%)				
Subcut Tiss, Lipoma						
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(0)	(0)	(0)	(0)	(0)	(0)
Bone, Femur	(51)	(50)	(49)	(50)	(50)	(50)
Lymphoma Malignant						1 (2%)

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**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:23  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Skeletal Muscle	(1)	(0)	(1)	(1)	(0)	(4)
Diaphragm, Adenocarcinoma, Metastatic, Uterus						
Diaphragm, Granulosa Cell Tumor Malignant, Metastatic, Ovary						
Diaphragm, Mesothelioma Malignant, Metastatic, Mesentery						
Diaphragm, Nephroblastoma, Metastatic, Kidney						
Lymphoma Malignant						1 (25%)
<b>NERVOUS SYSTEM</b>						
Brain, Brain Stem	(51)	(50)	(49)	(50)	(50)	(50)
Carcinoma, Metastatic, Pituitary Gland		1 (2%)		1 (2%)	1 (2%)	1 (2%)
Lymphoma Malignant						1 (2%)
Brain, Cerebellum	(51)	(50)	(49)	(50)	(50)	(50)
Astrocytoma Malignant						
Brain, Cerebrum	(51)	(50)	(49)	(50)	(50)	(50)
Astrocytoma Nos					1 (2%)	
Granular Cell Tumor Benign	1 (2%)					
Leukemia Mononuclear				1 (2%)		
Meninges, Lymphoma Malignant						
Oligodendroglioma Nos			1 (2%)			
Peripheral Nerve	(1)	(0)	(0)	(0)	(0)	(2)
Spinal Cord	(0)	(0)	(0)	(0)	(0)	(0)
<b>RESPIRATORY SYSTEM</b>						
Lung	(51)	(50)	(49)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Mammary Gland						
Alveolar/Bronchiolar Adenoma		1 (2%)				1 (2%)

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\* Number of animals with any tissue examined microscopically

**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:23  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Alveolar/Bronchiolar Carcinoma						
Carcinoma, Metastatic, Thyroid Gland						
Carcinoma, Metastatic, Zymbal'S Gland						
Histiocytic Sarcoma						
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					2 (4%)	1 (2%)
Mesothelioma Malignant, Metastatic, Mesentery						
Nephroblastoma, Metastatic, Kidney						1 (2%)
Nose	(51)	(50)	(49)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					1 (2%)	1 (2%)
Schwannoma Malignant				1 (2%)		
Trachea	(51)	(50)	(49)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant						1 (2%)
<b>SPECIAL SENSES SYSTEM</b>						
Ear	(0)	(1)	(0)	(0)	(0)	(0)
Neural Crest Tumor		1 (100%)				
Eye	(51)	(49)	(48)	(49)	(50)	(50)
Bilateral, Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					2 (4%)	1 (2%)
Squamous Cell Carcinoma, Deep Invasion					1 (2%)	
Harderian Gland	(51)	(49)	(49)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant					2 (4%)	1 (2%)
Squamous Cell Carcinoma, Deep Invasion						
Zymbal's Gland	(0)	(0)	(0)	(0)	(0)	(0)

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**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:23  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Carcinoma						
URINARY SYSTEM						
Kidney	(51)	(50)	(49)	(50)	(50)	(50)
Bilateral, Renal Tubule, Carcinoma		2 (4%)		1 (2%)	1 (2%)	
Leukemia Mononuclear				1 (2%)		
Lipoma						
Liposarcoma						
Lymphoma Malignant				1 (2%)	2 (4%)	1 (2%)
Nephroblastoma						1 (2%)
Renal Tubule, Adenoma				1 (2%)		
Urinary Bladder	(51)	(49)	(49)	(48)	(48)	(50)
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant						
Transit Epithe, Papilloma						
SYSTEMIC LESIONS						
Multiple Organ	*(51)	*(50)	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma						
Leukemia Mononuclear				1 (2%)		
Lymphoma Malignant				1 (2%)	2 (4%)	1 (2%)
Mesothelioma Malignant						1 (2%)

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Experiment Number: 99920-92  
 Test Type: MULTIGEN CHRONIC  
 Route: DOSED FEED  
 Species/Strain: Rat/CD

P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)  
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014  
 Time Report Requested: 12:47:23  
 First Dose M/F: NA / NA  
 Lab: NCTR

CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
<b>Disposition Summary</b>					
<b>Animals Initially In Study</b>	<b>50</b>	<b>52</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>Early Deaths</b>					
<b>Moribund Sacrifice</b>	<b>22</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>9</b>
<b>Natural Death</b>	<b>6</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>
<b>Survivors</b>					
<b>Moribund Sacrifice</b>		<b>17</b>	<b>13</b>	<b>20</b>	<b>14</b>
<b>Natural Death</b>			<b>1</b>	<b>3</b>	<b>1</b>
<b>Terminal Sacrifice</b>	<b>22</b>	<b>27</b>	<b>29</b>	<b>21</b>	<b>24</b>
<b>Animals Examined Microscopically</b>	<b>50</b>	<b>52</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>ALIMENTARY SYSTEM</b>					
Esophagus	(50)	(52)	(49)	(50)	(50)
Intestine Large, Cecum	(50)	(51)	(49)	(49)	(50)
Lymphoid Tiss, Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	1 (2%)
Intestine Large, Colon	(50)	(52)	(50)	(50)	(50)
Carcinoma					
Lymphoid Tiss, Leukemia Mononuclear					
Lymphoma Malignant					1 (2%)
Intestine Large, Rectum	(50)	(51)	(49)	(50)	(50)
Adenoma		1 (2%)			
Granular Cell Tumor Malignant, Metastatic, Vagina					
Leiomyosarcoma, Metastatic, Uterus					
Intestine Small, Duodenum	(50)	(52)	(49)	(50)	(50)
Leiomyoma	1 (2%)				
Lymphoma Malignant					
Intestine Small, Ileum	(49)	(52)	(49)	(49)	(50)

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**Experiment Number:** 99920-92  
**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:23  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
Lymphoma Malignant					
Intestine Small, Jejunum	(50)	(51)	(49)	(48)	(50)
Carcinoma			1 (2%)	1 (2%)	
Leiomyoma			1 (2%)		
Lymphoma Malignant					
Liver	(50)	(52)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus		1 (2%)			
Carcinoma, Metastatic, Intestine Small, Jejunum			1 (2%)		
Cholangiocarcinoma		1 (2%)	1 (2%)		
Cholangioma	1 (2%)				1 (2%)
Hepatocellular Adenoma	2 (4%)	2 (4%)			
Hepatocellular Adenoma, Multiple	1 (2%)				
Hepatocellular Carcinoma			1 (2%)		
Histiocytic Sarcoma				1 (2%)	
Leukemia Mononuclear					
Leukemia Mononuclear, Metastatic, Spleen		1 (2%)			
Lymphoma Malignant				1 (2%)	1 (2%)
Mesothelioma Malignant				1 (2%)	
Nephroblastoma, Metastatic, Kidney		1 (2%)			
Mesentery	(0)	(3)	(3)	(4)	(4)
Adenocarcinoma, Metastatic, Uterus		1 (33%)			
Leiomyosarcoma, Metastatic, Uterus					
Lymphoma Malignant				1 (25%)	1 (25%)
Mesothelioma Malignant			1 (33%)	1 (25%)	
Nephroblastoma, Metastatic, Kidney		1 (33%)			
Oral Mucosa	(4)	(2)	(4)	(7)	(2)
Fibrous Histiocytoma				1 (14%)	
Lymphoma Malignant					

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**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
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**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
Squamous Cell Carcinoma	1 (25%)	2 (100%)	1 (25%)	2 (29%)	1 (50%)
Pancreas	(50)	(52)	(49)	(50)	(50)
Acinar Cell, Adenocarcinoma					
Acinar Cell, Adenoma					
Adenocarcinoma, Metastatic, Uterus		1 (2%)			
Lymphoma Malignant					
Salivary Glands	(50)	(52)	(50)	(50)	(50)
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Stomach, Forestomach	(50)	(52)	(49)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus		1 (2%)			
Lymphoma Malignant					
Squamous Cell Carcinoma					1 (2%)
Squamous Cell Papilloma		1 (2%)		2 (4%)	
Stomach, Glandular	(50)	(52)	(49)	(50)	(50)
Leiomyosarcoma		1 (2%)			
Tongue	(0)	(0)	(1)	(0)	(0)
Tooth	(0)	(0)	(0)	(0)	(0)
<b>CARDIOVASCULAR SYSTEM</b>					
Blood Vessel	(50)	(52)	(50)	(50)	(50)
Heart	(50)	(52)	(50)	(50)	(50)
Endocardium, Schwannoma Malignant					
Leukemia Mononuclear					
Lymphoma Malignant					
<b>ENDOCRINE SYSTEM</b>					
Adrenal Cortex	(50)	(52)	(50)	(50)	(50)
Adenoma	3 (6%)	2 (4%)	2 (4%)	1 (2%)	

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**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
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**Lab:** NCTR

CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
Leukemia Mononuclear					
Lymphoma Malignant					
Adrenal Medulla	(49)	(52)	(50)	(50)	(50)
Leukemia Mononuclear					
Pheochromocytoma Benign	2 (4%)				1 (2%)
Islets, Pancreatic	(50)	(52)	(49)	(50)	(50)
Adenoma	1 (2%)	1 (2%)			1 (2%)
Carcinoma					
Lymphoma Malignant					
Parathyroid Gland	(46)	(48)	(45)	(47)	(44)
Adenoma	1 (2%)				
Carcinoma, Metastatic, Thyroid Gland					
Leukemia Mononuclear					
Lymphoma Malignant					
Pituitary Gland	(49)	(52)	(50)	(50)	(50)
Leukemia Mononuclear					
Lymphoma Malignant					
Pars Distalis, Adenoma	34 (69%)	32 (62%)	30 (60%)	36 (72%)	32 (64%)
Pars Distalis, Carcinoma	1 (2%)				
Pars Nervosa, Schwannoma Malignant, Metastatic, Nose					
Thyroid Gland	(50)	(52)	(49)	(50)	(50)
Bilateral, C Cell, Adenoma					1 (2%)
Bilateral, C Cell, Carcinoma					
C Cell, Adenoma		1 (2%)	1 (2%)	1 (2%)	1 (2%)
C Cell, Carcinoma	1 (2%)	1 (2%)		1 (2%)	
Follicular Cel, Adenoma					
Follicular Cel, Carcinoma					
Leukemia Mononuclear					

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**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
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**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
Lymphoma Malignant					
GENERAL BODY SYSTEM					
Tissue NOS	(0)	(0)	(0)	(1)	(1)
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung					1 (100%)
Sarcoma					
Squamous Cell Carcinoma, Deep Invasion				1 (100%)	
GENITAL SYSTEM					
Clitoral Gland	(49)	(50)	(50)	(49)	(48)
Adenoma			1 (2%)	1 (2%)	2 (4%)
Carcinoma					
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Sarcoma					
Squamous Cell Carcinoma					
Squamous Cell Papilloma					
Ovary	(50)	(51)	(50)	(50)	(50)
Carcinoma, Metastatic, Kidney					
Granulosa Cell Tumor Benign	2 (4%)		1 (2%)	1 (2%)	2 (4%)
Granulosa Cell Tumor Malignant			1 (2%)		
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Mesothelioma Malignant				1 (2%)	
Sertoli Cell Tumor Benign			2 (4%)	1 (2%)	
Oviduct	(50)	(51)	(49)	(50)	(50)
Leukemia Mononuclear					
Lymphoma Malignant					
Uterus	(50)	(52)	(50)	(50)	(50)

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**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
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**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
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**Date Report Requested:** 10/23/2014  
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**Lab:** NCTR

CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
Cervix, Squamous Cell Carcinoma					
Endometrium, Adenocarcinoma		4 (8%)	1 (2%)		
Endometrium, Adenoma	1 (2%)	1 (2%)	1 (2%)	2 (4%)	
Fibrous Histiocytoma					
Leiomyoma					1 (2%)
Leiomyosarcoma					
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Nephroblastoma, Metastatic, Kidney		1 (2%)			
Polyp Stromal	7 (14%)	1 (2%)	7 (14%)	2 (4%)	5 (10%)
Sarcoma Stromal					
Vagina	(50)	(51)	(50)	(50)	(50)
Granular Cell Tumor Benign					
Granular Cell Tumor Malignant					
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Nephroblastoma, Metastatic, Kidney		1 (2%)			
Polyp					
<b>HEMATOPOIETIC SYSTEM</b>					
Bone Marrow	(50)	(52)	(50)	(50)	(50)
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Schwannoma Malignant, Metastatic, Skin		1 (2%)			
Lymph Node	(13)	(10)	(17)	(10)	(5)
Axillary, Lymphoma Malignant				1 (10%)	
Carcinoma, Metastatic, Thyroid Gland					
Deep Cervical, Carcinoma, Metastatic, Thyroid Gland					

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**Test Type:** MULTIGEN CHRONIC  
**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
**Test Compound:** ENDOCRINE DISRUPTOR(Ethinyl Estradiol)  
**CAS Number:** 57-63-6

**Date Report Requested:** 10/23/2014  
**Time Report Requested:** 12:47:24  
**First Dose M/F:** NA / NA  
**Lab:** NCTR

CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
Deep Cervical, Lymphoma Malignant				1 (10%)	
Inguinal, Lymphoma Malignant					
Lumbar, Leukemia Mononuclear					
Lumbar, Lymphoma Malignant				1 (10%)	
Mediastinal, Lymphoma Malignant				1 (10%)	
Pancreatic, Lymphoma Malignant					
Popliteal, Lymphoma Malignant					
Renal, Leukemia Mononuclear					
Renal, Lymphoma Malignant				1 (10%)	
Lymph Node, Mandibular Carcinoma, Metastatic, Zymbal'S Gland	(50)	(51)	(50)	(50)	(50)
Leukemia Mononuclear				1 (2%)	
Lymphoma Malignant				1 (2%)	1 (2%)
Lymph Node, Mesenteric Leukemia Mononuclear	(50)	(51)	(49)	(50)	(49)
Lymphoma Malignant					1 (2%)
Nephroblastoma, Metastatic, Kidney		1 (2%)			
Spleen Leukemia Mononuclear	(50)	(52)	(50)	(50)	(50)
Lymphoma Malignant		1 (2%)		1 (2%)	1 (2%)
Mesothelioma Malignant				1 (2%)	
Sarcoma					
Thymus Histiocytic Sarcoma	(48)	(50)	(45)	(46)	(49)
Leukemia Mononuclear				1 (2%)	
Lymphoma Malignant				1 (2%)	1 (2%)
Thymoma Benign	1 (2%)				

INTEGUMENTARY SYSTEM

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

b - Primary tumors: all tumors except metastatic tumors

\* Number of animals with any tissue examined microscopically

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**Route:** DOSED FEED  
**Species/Strain:** Rat/CD

**P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)**  
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CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
Mammary Gland	(50)	(52)	(50)	(50)	(50)
Adenocarcinoma	11 (22%)	6 (12%)	4 (8%)	6 (12%)	10 (20%)
Adenocarcinoma, Multiple			2 (4%)	3 (6%)	
Fibroadenoma	21 (42%)	17 (33%)	13 (26%)	21 (42%)	13 (26%)
Fibroadenoma, Multiple	13 (26%)	19 (37%)	21 (42%)	19 (38%)	24 (48%)
Lymphoma Malignant				1 (2%)	
Skin	(50)	(52)	(50)	(50)	(50)
Basal Cell Adenoma					1 (2%)
Basal Cell Carcinoma					
Ear, Basal Cell Adenoma			1 (2%)		
Fibroma			2 (4%)		1 (2%)
Fibrous Histiocytoma	1 (2%)			1 (2%)	
Histiocytic Sarcoma				1 (2%)	
Keratoacanthoma					
Lipoma		1 (2%)			
Lymphoma Malignant				1 (2%)	
Sarcoma	1 (2%)	1 (2%)		1 (2%)	1 (2%)
Schwannoma Malignant		1 (2%)			
Sebaceous Gl, Carcinoma					
Squamous Cell Papilloma					
Subcut Tiss, Granular Cell Tumor Benign	1 (2%)				
Subcut Tiss, Leiomyosarcoma, Metastatic, Uterus					
Subcut Tiss, Lipoma	1 (2%)				
<b>MUSCULOSKELETAL SYSTEM</b>					
Bone	(0)	(0)	(1)	(0)	(0)
Bone, Femur	(50)	(52)	(50)	(50)	(50)
Lymphoma Malignant					

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CD Rat FEMALE	F1/50PPB TO CTL	F3 0PPB	F3 /2PPB TO CTL	F3/10PPB TO CTL	F3/50PPB TO CTL
Skeletal Muscle	(1)	(3)	(4)	(0)	(1)
Diaphragm, Adenocarcinoma, Metastatic, Uterus		1 (33%)			
Diaphragm, Granulosa Cell Tumor Malignant, Metastatic, Ovary			1 (25%)		
Diaphragm, Mesothelioma Malignant, Metastatic, Mesentery			1 (25%)		
Diaphragm, Nephroblastoma, Metastatic, Kidney		1 (33%)			
Lymphoma Malignant					
<b>NERVOUS SYSTEM</b>					
Brain, Brain Stem	(50)	(52)	(50)	(50)	(50)
Carcinoma, Metastatic, Pituitary Gland	1 (2%)				
Lymphoma Malignant					
Brain, Cerebellum	(50)	(51)	(50)	(50)	(50)
Astrocytoma Malignant					1 (2%)
Brain, Cerebrum	(50)	(52)	(50)	(50)	(50)
Astrocytoma Nos					
Granular Cell Tumor Benign					
Leukemia Mononuclear					
Meninges, Lymphoma Malignant				1 (2%)	
Oligodendroglioma Nos					
Peripheral Nerve	(0)	(0)	(1)	(0)	(1)
Spinal Cord	(0)	(0)	(1)	(0)	(1)
<b>RESPIRATORY SYSTEM</b>					
Lung	(50)	(52)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Mammary Gland				1 (2%)	1 (2%)
Alveolar/Bronchiolar Adenoma		1 (2%)			1 (2%)

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Alveolar/Bronchiolar Carcinoma					1 (2%)
Carcinoma, Metastatic, Thyroid Gland		1 (2%)		1 (2%)	
Carcinoma, Metastatic, Zymbal'S Gland				1 (2%)	
Histiocytic Sarcoma				1 (2%)	
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	1 (2%)
Mesothelioma Malignant, Metastatic, Mesentery			1 (2%)		
Nephroblastoma, Metastatic, Kidney					
Nose	(50)	(52)	(50)	(50)	(50)
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Schwannoma Malignant					
Trachea	(50)	(52)	(49)	(50)	(50)
Leukemia Mononuclear					
Lymphoma Malignant					
SPECIAL SENSES SYSTEM					
Ear	(0)	(0)	(0)	(2)	(0)
Neural Crest Tumor				2 (100%)	
Eye	(47)	(52)	(50)	(49)	(50)
Bilateral, Leukemia Mononuclear					
Lymphoma Malignant					
Squamous Cell Carcinoma, Deep Invasion					
Harderian Gland	(50)	(52)	(50)	(50)	(50)
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Squamous Cell Carcinoma, Deep Invasion				1 (2%)	
Zymbal's Gland	(1)	(0)	(0)	(1)	(0)

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Carcinoma	1 (100%)			1 (100%)	
<b>URINARY SYSTEM</b>					
Kidney	(50)	(52)	(50)	(50)	(50)
Bilateral, Renal Tubule, Carcinoma					
Leukemia Mononuclear					
Lipoma		1 (2%)			
Liposarcoma					1 (2%)
Lymphoma Malignant				1 (2%)	
Nephroblastoma		1 (2%)			1 (2%)
Renal Tubule, Adenoma				1 (2%)	1 (2%)
Urinary Bladder	(49)	(52)	(49)	(49)	(50)
Leukemia Mononuclear					
Lymphoma Malignant				1 (2%)	
Transit Epithe, Papilloma					1 (2%)
<b>SYSTEMIC LESIONS</b>					
Multiple Organ	*(50)	*(52)	*(50)	*(50)	*(50)
Histiocytic Sarcoma				1 (2%)	
Leukemia Mononuclear		1 (2%)			
Lymphoma Malignant				1 (2%)	1 (2%)
Mesothelioma Malignant			1 (2%)	1 (2%)	

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CD Rat FEMALE	F1 0PPB	F1 2PPB	F1 10 PPB	F1 50 PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
<b>Tumor Summary for FEMALE</b>						
Total Animals with Primary Neoplasms (b)	48	47	48	50	46	49
Total Primary Neoplasms	99	102	100	103	94	100
Total Animals with Benign Neoplasms	48	44	48	47	45	45
Total Benign Neoplasms	86	80	87	80	76	82
Total Animals with Malignant Neoplasms	11	18	11	16	13	17
Total Malignant Neoplasms	13	21	12	23	17	18
Total Animals with Metastatic Neoplasms		3		2	4	2
Total Metastatic Neoplasms		5		3	4	2
Total Animals with Malignant Neoplasms Uncertain Primary Site						
Total Animals with Neoplasms Uncertain - Benign or Malignant		1	1		1	
Total Uncertain Neoplasms		1	1		1	

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<b>Tumor Summary for FEMALE</b>					
<b>Total Animals with Primary Neoplasms (b)</b>	<b>49</b>	<b>50</b>	<b>48</b>	<b>48</b>	<b>48</b>
<b>Total Primary Neoplasms</b>	<b>110</b>	<b>100</b>	<b>96</b>	<b>112</b>	<b>107</b>
<b>Total Animals with Benign Neoplasms</b>	<b>47</b>	<b>46</b>	<b>47</b>	<b>46</b>	<b>44</b>
<b>Total Benign Neoplasms</b>	<b>93</b>	<b>81</b>	<b>83</b>	<b>88</b>	<b>89</b>
<b>Total Animals with Malignant Neoplasms</b>	<b>16</b>	<b>15</b>	<b>12</b>	<b>16</b>	<b>16</b>
<b>Total Malignant Neoplasms</b>	<b>17</b>	<b>19</b>	<b>13</b>	<b>22</b>	<b>18</b>
<b>Total Animals with Metastatic Neoplasms</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>2</b>
<b>Total Metastatic Neoplasms</b>	<b>1</b>	<b>14</b>	<b>4</b>	<b>4</b>	<b>2</b>
<b>Total Animals with Malignant Neoplasms Uncertain Primary Site</b>					
<b>Total Animals with Neoplasms Uncertain - Benign or Malignant</b>				<b>2</b>	
<b>Total Uncertain Neoplasms</b>				<b>2</b>	

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

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