

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

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

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

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:21
First Dose M/F: NA / NA
Lab: NCTR

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

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CD Rat MALE	F1 0PPB	F1 2PPB	F1 10PPB	F1 50PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Disposition Summary						
Animals Initially In Study	51	50	50	50	50	50
Early Deaths						
Moribund Sacrifice	9	13	17	12	15	7
Natural Death	7	6	3	4	4	10
Survivors						
Moribund Sacrifice				2		
Natural Death	1					
Terminal Sacrifice	34	31	30	32	31	33
Animals Examined Microscopically	51	50	50	50	50	50
ALIMENTARY SYSTEM						
Esophagus	(51)	(50)	(50)	(50)	(50)	(49)
Dilatation	1 [4.0]					
Hyperkeratosis			3 [2.0]	3 [1.3]	2 [2.0]	
Inflammation, Suppurative	1 [2.0]					
Intestine Large, Cecum	(44)	(45)	(47)	(46)	(48)	(43)
Dilatation				1 [3.0]	1 [4.0]	
Edema						
Hyperplasia, Lymphoid			1 [1.0]			1 [2.0]
Inflammation, Chronic Active			1 [2.0]			1 [2.0]
Inflammation, Suppurative						1 [4.0]
Necrosis						
Polyarteritis						
Intestine Large, Colon	(45)	(47)	(48)	(47)	(49)	(43)
Dilatation					1 [4.0]	
Hyperplasia, Lymphoid	1 [3.0]					
Polyarteritis						
Intestine Large, Rectum	(45)	(45)	(47)	(46)	(49)	(42)

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Dilatation					1 [4.0]	
Infiltration Cellular, Lymphocyte						
Inflammation, Chronic Active						
Necrosis						
Intestine Small, Duodenum	(44)	(45)	(48)	(47)	(49)	(42)
Intestine Small, Ileum	(43)	(45)	(47)	(46)	(48)	(41)
Dilatation					1 [4.0]	
Inflammation, Chronic Active						
Necrosis						
Ulcer						
Intestine Small, Jejunum	(43)	(45)	(46)	(46)	(48)	(41)
Dilatation					1 [2.0]	
Inflammation, Chronic Active						1 [2.0]
Lymphoid Tiss, Hyperplasia						
Liver	(49)	(49)	(50)	(49)	(50)	(48)
Angiectasis	3 [2.3]	5 [1.8]	1 [2.0]	4 [1.8]		
Basophilic Focus	1	3	3	17	3	11
Bile Duct, Hyperplasia	2 [1.5]	9 [1.0]	7 [1.1]		3 [1.0]	7 [1.4]
Biliar Tract, Cyst						
Biliar Tract, Fibrosis	4 [1.3]	2 [1.0]	1 [1.0]	1 [1.0]	6 [1.0]	2 [1.0]
Capsule, Fibrosis					1 [1.0]	
Capsule, Inflammation, Chronic Active						
Clear Cell Focus	1			1		
Congestion						
Cyst						
Cyst Multilocular			1			
Cytomegaly						
Degeneration, Cystic	4 [1.0]	3 [1.0]	5 [1.2]	8 [1.1]	9 [1.1]	10 [1.3]
Eosinophilic Focus	3	5	8	15	11	5

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Focal Cellular Change			1			
Hematopoietic Cell Proliferation	2 [1.5]	1 [2.0]	1 [1.0]	3 [1.3]		5 [1.0]
Hepatodiaphragmatic Nodule	6	1	4	6	2	2
Hyperplasia						
Hyperplasia, Regenerative						
Infiltration Cellular, Lymphocyte		3 [1.3]		1 [1.0]	1 [1.0]	1 [1.0]
Inflammation, Chronic			1 [1.0]			
Inflammation, Chronic Active	13 [1.1]	5 [1.2]	8 [1.1]	9 [1.1]	9 [1.1]	7 [1.1]
Inflammation, Suppurative						1 [4.0]
Karyomegaly						
Left Lat Lobe, Developmental Malformation	1					
Mixed Cell Focus			1	1	1	
Necrosis		1 [2.0]	2 [2.0]	2 [1.0]	2 [1.5]	3 [2.0]
Oval Cell, Hyperplasia		1 [2.0]				
Pigmentation						
Tension Lipidosis			3 [3.0]	3 [2.0]		1 [4.0]
Vacuolization Cytoplasmic	12 [1.4]	4 [2.0]	10 [1.4]	13 [1.2]	8 [1.4]	16 [1.4]
Mesentery	(1)	(1)	(2)	(1)	(1)	(2)
Abscess						
Fat, Necrosis		1 [4.0]	2 [3.5]	1 [4.0]	1 [4.0]	1 [4.0]
Oral Mucosa	(3)	(2)	(4)	(9)	(5)	(1)
Gingival, Inflammation, Chronic Active						1 [2.0]
Inflammation, Suppurative						
Keratin Cyst		1		2	1	
Pancreas	(46)	(48)	(48)	(48)	(49)	(47)
Acinar Cell, Degeneration	40 [2.3]	42 [2.1]	40 [2.0]	39 [2.3]	46 [2.0]	39 [2.3]
Basophilic Focus				1		
Infiltration Cellular, Lymphocyte						
Polyarteritis						

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CD Rat MALE	F1 0PPB	F1 2PPB	F1 10PPB	F1 50PPB	F1/2PPB TO CTL	F1/10PPB TO CTL
Salivary Glands	(48)	(50)	(49)	(50)	(50)	(48)
Acinus, Degeneration				1 [3.0]	1 [2.0]	
Duct, Dilatation				1 [4.0]		
Infiltration Cellular, Lymphocyte						
Inflammation, Chronic Active				1 [1.0]		
Inflammation, Suppurative			1 [2.0]			
Stomach, Forestomach	(47)	(48)	(49)	(48)	(50)	(46)
Edema	1 [4.0]	1 [3.0]			1 [2.0]	1 [4.0]
Epithelium, Hyperplasia	2 [2.5]				4 [2.3]	1 [2.0]
Hyperkeratosis						
Hyperplasia, Basal Cell					1 [4.0]	
Inflammation, Chronic Active						
Inflammation, Suppurative					1 [3.0]	1 [2.0]
Keratin Cyst	1		1			
Necrosis		1 [2.0]				
Ulcer					1 [2.0]	1 [3.0]
Stomach, Glandular	(45)	(47)	(48)	(46)	(50)	(45)
Cyst		1				
Edema				1 [3.0]	1 [2.0]	
Epithelium, Hyperplasia				1 [2.0]		
Infiltration Cellular, Lymphocyte						
Tongue	(0)	(0)	(0)	(0)	(0)	(0)
Inflammation, Chronic Active						
CARDIOVASCULAR SYSTEM						
Blood Vessel	(51)	(50)	(50)	(50)	(50)	(50)
Heart	(51)	(50)	(50)	(50)	(50)	(48)
Atrium, Dilatation		3 [3.3]			2 [2.5]	1 [2.0]
Atrium, Thrombosis					1 [4.0]	
Cardiomyopathy	42 [1.6]	34 [1.5]	40 [1.4]	37 [1.5]	40 [1.7]	41 [1.6]

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Endocardium, Hyperplasia Inflammation, Suppurative Metaplasia, Osseous Polyarteritis Ventricle, Dilatation	1 [2.0]		1 [3.0]	1 [3.0]	1 [2.0] 1 [2.0]	1 [3.0] 1 [4.0]
ENDOCRINE SYSTEM						
Adrenal Cortex	(47)	(50)	(50)	(50)	(49)	(45)
Accessory Adrenal Cortical Nodule	3	1	2	1	2	2
Angiectasis	1 [1.0]	2 [2.0]	3 [2.0]	3 [1.7]	4 [1.8]	4 [2.0]
Atrophy				1 [4.0]	1 [3.0]	
Bilateral, Hyperplasia Cyst				1 [4.0]		
Degeneration, Cystic	4 [1.5]		4 [1.8]	4 [2.5]	6 [1.3]	4 [1.8]
Hyperplasia	8 [1.4]	6 [2.2]	7 [1.7]	6 [1.5]	1 [1.0]	4 [1.5]
Hypertrophy	3 [1.7]	3 [1.3]	1 [1.0]	3 [1.7]	4 [2.0]	2 [1.0]
Metaplasia, Osseous		1 [4.0]				
Pigmentation				1 [4.0]		
Vacuolization Cytoplasmic	11 [1.2]	9 [2.0]	10 [1.6]	11 [1.3]	11 [1.4]	15 [1.3]
Adrenal Medulla	(46)	(48)	(49)	(49)	(49)	(45)
Angiectasis		1 [4.0]				
Atrophy					1 [3.0]	
Bilateral, Hyperplasia	1 [1.0]					
Cyst						1
Hyperplasia	7 [1.3]	4 [1.3]	5 [1.6]	13 [1.8]	12 [1.1]	16 [2.0]
Islets, Pancreatic	(46)	(48)	(49)	(49)	(49)	(47)
Degeneration						
Hyperplasia	12 [1.3]	13 [1.2]	5 [1.0]	7 [1.0]	10 [1.0]	10 [1.3]
Parathyroid Gland	(49)	(46)	(46)	(46)	(50)	(44)
Bilateral, Hyperplasia						

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Cyst						
Hyperplasia	7 [2.3]	5 [1.8]	6 [1.3]	9 [1.9]	8 [2.1]	7 [1.9]
Pituitary Gland	(48)	(50)	(50)	(50)	(50)	(47)
Inflammation, Suppurative						
Necrosis						
Pars Distalis, Cyst	3	1	5	6	6	1
Pars Distalis, Hyperplasia	11 [1.5]	6 [2.3]	12 [1.8]	17 [2.1]	8 [2.0]	9 [1.9]
Pars Intermed, Cyst		1		1	1	1
Pars Intermed, Hyperplasia		1 [2.0]	1 [2.0]			
Thyroid Gland	(47)	(49)	(50)	(49)	(50)	(47)
C Cell, Hyperplasia	6 [1.2]	4 [1.0]	6 [1.2]	10 [1.5]	2 [1.0]	7 [1.3]
Cyst, Squamous	5		16	8	11	11
Follicle, Cyst						
Follicular Cel, Hyperplasia			1 [2.0]			
Infiltration Cellular, Lymphocyte					1 [1.0]	
Inflammation, Chronic Active						
GENERAL BODY SYSTEM						
Tissue NOS	(1)	(0)	(1)	(0)	(1)	(0)
Degeneration, Cystic	1 [4.0]					
Infiltration Cellular, Plasma Cell	1 [4.0]					
GENITAL SYSTEM						
Coagulating Gland	(46)	(49)	(49)	(49)	(49)	(47)
Atrophy		2 [2.5]	2 [3.5]	1 [3.0]	1 [2.0]	
Degeneration, Cystic				1 [3.0]		
Developmental Malformation	9	10	11	14	14	8
Hemorrhage					1 [4.0]	
Inflammation, Chronic Active						1 [3.0]
Inflammation, Suppurative				2 [3.0]		2 [3.5]

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Lumen, Dilatation		2 [2.5]		1 [1.0]		
Ductus Deferens	(0)	(0)	(0)	(0)	(0)	(1)
Dilatation						
Inflammation, Chronic Active						
Inflammation, Suppurative						1 [4.0]
Epididymis	(51)	(50)	(50)	(50)	(50)	(49)
Atrophy	3 [2.7]	5 [2.6]	5 [2.2]	2 [2.5]	4 [2.3]	4 [2.0]
Granuloma Sperm		1 [4.0]				
Hyperplasia					1 [4.0]	
Hypospermia	3 [4.0]	5 [4.0]	6 [4.0]	3 [4.0]	4 [3.5]	4 [4.0]
Infiltration Cellular, Lymphocyte					1 [1.0]	1 [1.0]
Polyarteritis						
Penis	(0)	(1)	(0)	(0)	(1)	(1)
Dilatation						1 [3.0]
Preputial Gland	(51)	(50)	(50)	(50)	(50)	(50)
Abscess	1 [4.0]	1 [4.0]	1 [4.0]	2 [4.0]		1 [4.0]
Atrophy		2 [2.0]	5 [1.8]	4 [2.5]	6 [1.7]	3 [2.7]
Cyst					1	
Duct, Dilatation	14 [2.5]	9 [2.0]	15 [2.5]	14 [2.4]	12 [2.8]	16 [2.4]
Hyperplasia, Basal Cell			1 [3.0]			
Infiltration Cellular, Lymphocyte	10 [1.8]	17 [1.6]	10 [1.7]	10 [1.3]	9 [1.2]	9 [1.2]
Inflammation, Chronic Active	2 [1.5]		2 [2.0]	2 [1.5]	2 [1.5]	
Inflammation, Suppurative	20 [2.7]	21 [2.4]	23 [2.7]	25 [2.6]	25 [2.6]	28 [2.4]
Keratin Cyst			1			
Polyarteritis						
Prostate, Dorsal/Lateral Lobe	(36)	(37)	(45)	(41)	(38)	(42)
Atrophy		1 [2.0]	1 [3.0]			
Cyst	1	1			1	
Degeneration						

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Dilatation						
Hemorrhage					1 [4.0]	
Infiltration Cellular, Lymphocyte			1 [1.0]			2 [1.5]
Inflammation, Chronic Active	2 [1.0]	2 [1.5]	4 [1.3]	2 [2.0]	4 [1.5]	2 [2.5]
Inflammation, Suppurative	34 [1.6]	33 [1.7]	39 [1.6]	38 [1.7]	34 [1.6]	37 [2.1]
Prostate, Dorsal/lateral Lobe	(13)	(13)	(5)	(9)	(12)	(7)
Prostate, Ventral Lobe	(49)	(50)	(50)	(50)	(50)	(49)
Atrophy		1 [2.0]	1 [3.0]			
Degeneration		1 [2.0]				
Dilatation						
Hemorrhage					1 [4.0]	
Hyperplasia	7 [1.9]	4 [1.0]	3 [1.3]	3 [1.3]	7 [2.3]	5 [2.0]
Infiltration Cellular, Lymphocyte	2 [1.0]	1 [2.0]	4 [1.3]	3 [1.3]	2 [1.0]	4 [1.0]
Inflammation, Chronic Active	1 [1.0]	2 [2.0]	2 [2.5]	3 [1.7]	6 [2.2]	4 [2.3]
Inflammation, Suppurative	3 [1.3]	3 [2.3]	6 [1.2]	3 [1.7]	3 [2.7]	5 [2.0]
Rete Testes	(46)	(44)	(46)	(47)	(47)	(43)
Dilatation	2 [1.5]		2 [1.5]	3 [1.7]	2 [2.0]	2 [1.5]
Fibrosis	1 [1.0]		2 [2.5]	1 [2.0]	1 [3.0]	2 [1.5]
Seminal Vesicle	(43)	(46)	(47)	(47)	(49)	(43)
Atrophy	4 [1.8]	4 [2.0]	4 [2.3]	4 [2.3]	1 [3.0]	1 [1.0]
Dilatation					1 [3.0]	
Epithelium, Hyperplasia		1 [4.0]				
Hemorrhage					1 [4.0]	
Inflammation, Chronic Active						
Inflammation, Suppurative		1 [1.0]		1 [4.0]		1 [4.0]
Lumen, Dilatation	2 [4.0]	5 [2.8]	2 [2.5]	4 [3.0]	5 [3.2]	5 [3.4]
Testes	(48)	(50)	(50)	(50)	(50)	(48)
Granuloma Sperm					1 [2.0]	
Interstit Cell, Hyperplasia			1 [4.0]			

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Malformation		1				
Polyarteritis						
Seminif Tub, Degeneration	19 [1.8]	19 [1.7]	19 [2.4]	20 [1.8]	23 [2.0]	29 [2.1]
HEMATOPOIETIC SYSTEM						
Bone Marrow	(46)	(48)	(48)	(48)	(50)	(46)
Erythroid Cell, Hyperplasia		1 [2.0]	1 [1.0]	2 [2.0]		
Hypocellularity	1 [3.0]		2 [3.0]	1 [2.0]	1 [2.0]	1 [2.0]
Myeloid Cell, Hyperplasia	6 [1.7]	7 [2.4]	8 [2.4]	7 [2.3]	6 [2.2]	7 [2.1]
Sinusoid, Dilatation						
Lymph Node	(14)	(16)	(16)	(15)	(19)	(14)
Axillary, Degeneration, Cystic						
Axillary, Hyperplasia, Lymphoid	1 [4.0]	1 [2.0]	1 [2.0]	1 [3.0]	1 [2.0]	
Axillary, Infiltration Cellular, Plasma Cell			1 [4.0]	2 [3.0]	2 [4.0]	1 [4.0]
Degeneration, Cystic	1 [4.0]	2 [3.5]				
Hemal, Degeneration, Cystic						1 [4.0]
Hemal, Inflammation, Chronic Active						1 [3.0]
Hemal, Necrosis						1 [2.0]
Inguinal, Degeneration, Cystic	1 [3.0]					
Inguinal, Hyperplasia, Lymphoid	1 [3.0]			1 [3.0]	1 [2.0]	1 [3.0]
Inguinal, Infiltration Cellular, Plasma Cell	1 [3.0]			2 [4.0]	1 [4.0]	1 [4.0]
Lumbar, Degeneration, Cystic	8 [3.5]	11 [3.3]	8 [2.8]	9 [3.0]	9 [2.3]	8 [3.1]
Lumbar, Hyperplasia, Lymphoid	3 [3.7]	2 [2.5]	2 [3.5]	1 [2.0]	3 [2.3]	6 [2.7]
Lumbar, Infiltration Cellular, Plasma Cell	7 [3.6]	5 [2.6]	7 [3.4]	5 [3.4]	9 [2.9]	10 [3.4]
Mediastinal, Degeneration, Cystic						
Mediastinal, Infiltration Cellular, Histiocyte						
Mediastinal, Infiltration Cellular, Plasma Cell	1 [3.0]	1 [2.0]	1 [2.0]			1 [2.0]
Pancreatic, Degeneration, Cystic			1 [3.0]			
Pancreatic, Hyperplasia, Lymphoid						
Pancreatic, Inflammation, Granulomatous						

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:23
 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
Pancreatic, Necrosis						
Popliteal, Degeneration, Cystic		1 [2.0]				
Popliteal, Hyperplasia, Lymphoid						
Popliteal, Infiltration Cellular, Plasma Cell		1 [4.0]		1 [4.0]		
Renal, Degeneration, Cystic	1 [3.0]	3 [2.7]	3 [4.0]	3 [2.7]	1 [3.0]	3 [3.3]
Renal, Hyperplasia, Lymphoid				1 [2.0]	1 [3.0]	1 [2.0]
Renal, Infiltration Cellular, Plasma Cell		1 [3.0]		2 [3.5]	2 [2.5]	3 [3.3]
Thoracic, Degeneration, Cystic			1 [4.0]			
Thoracic, Infiltration Cellular, Plasma Cell						
Lymph Node, Mandibular	(49)	(50)	(50)	(48)	(50)	(47)
Degeneration, Cystic	10 [1.9]	11 [2.5]	6 [1.8]	11 [2.2]	6 [3.0]	4 [2.5]
Hyperplasia, Lymphoid	27 [2.1]	26 [2.2]	25 [1.9]	29 [2.1]	24 [2.0]	26 [2.0]
Infiltration Cellular, Plasma Cell	38 [2.4]	33 [2.4]	37 [2.4]	32 [2.4]	39 [2.2]	32 [2.6]
Necrosis						
Lymph Node, Mesenteric	(45)	(46)	(49)	(47)	(50)	(44)
Degeneration, Cystic	1 [3.0]	3 [1.7]	1 [1.0]		1 [2.0]	1 [4.0]
Hyperplasia, Lymphoid	3 [2.0]	1 [1.0]	1 [2.0]	3 [2.0]	1 [2.0]	5 [2.0]
Infiltration Cellular, Mast Cell						1 [3.0]
Infiltration Cellular, Plasma Cell			1 [2.0]			1 [2.0]
Inflammation, Granulomatous	9 [1.7]	15 [1.7]	14 [1.6]	9 [1.6]	14 [1.7]	10 [1.8]
Pigmentation						
Spleen	(48)	(49)	(49)	(49)	(50)	(47)
Capsule, Cyst			1			
Depletion Lymphoid	1 [2.0]	1 [4.0]	1 [3.0]	1 [4.0]	2 [3.0]	
Hematopoietic Cell Proliferation	29 [1.8]	14 [2.4]	23 [2.0]	24 [1.5]	16 [2.2]	19 [1.8]
Hyperplasia, Lymphoid	5 [1.8]	1 [1.0]	2 [2.5]		5 [1.8]	
Hyperplasia, Stromal			1 [4.0]	2 [4.0]		1 [4.0]
Infiltration Cellular, Plasma Cell						
Infiltration Cellular, Polymorphnuclr	1 [3.0]	1 [4.0]			1 [4.0]	1 [2.0]

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

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH AVERAGE SEVERITY GRADES[b]
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:23
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
Inflammation, Chronic Active		1 [4.0]				
Inflammation, Suppurative						
Necrosis		2 [3.0]		1 [4.0]		1 [2.0]
Pigmentation	20 [2.2]	21 [2.0]	22 [2.0]	30 [2.1]	18 [1.9]	18 [2.1]
Polyarteritis						
Red Pulp, Hyperplasia			1 [4.0]			
Thymus	(45)	(44)	(46)	(44)	(46)	(40)
Atrophy	43 [3.9]	40 [3.9]	44 [3.9]	41 [4.0]	42 [3.9]	39 [3.9]
Cyst	1		1			
Cyst, Squamous					1	
Degeneration, Cystic					1 [3.0]	
Epithel Cell, Hyperplasia	2 [1.5]	2 [1.5]	2 [2.0]	4 [1.3]	2 [2.0]	2 [1.5]
Polyarteritis						
INTEGUMENTARY SYSTEM						
Mammary Gland	(44)	(45)	(47)	(44)	(45)	(47)
Acinus, Degeneration	29 [2.1]	19 [2.4]	24 [2.7]	11 [2.9]	24 [2.7]	17 [2.4]
Alveolus, Hyperplasia	1 [1.0]	4 [1.8]	6 [1.8]	18 [2.2]	2 [2.0]	6 [2.0]
Atypical Focus		1				1
Cyst						
Duct, Dilatation			1 [1.0]			
Duct, Ectasia			1 [4.0]			
Duct, Hyperplasia			2 [1.0]	3 [1.0]		1 [2.0]
Duct, Inflammation, Chronic Active			1 [3.0]			
Ectasia	1 [2.0]	3 [2.7]	7 [2.0]	4 [2.3]	3 [1.3]	12 [1.8]
Fibrosis						
Galactocele						
Lactation	3 [1.7]	9 [1.9]	10 [2.0]	4 [2.8]	5 [2.0]	14 [2.4]
Polyarteritis						
Skin	(51)	(50)	(50)	(50)	(50)	(49)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:23
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
Abscess			1 [4.0]			1 [4.0]
Cyst Epithelial Inclusion	2	1	2	4	2	2
Dermis, Fibrosis					1 [3.0]	
Dermis, Inflammation, Chronic Active					1 [2.0]	2 [2.0]
Dermis, Necrosis					1 [3.0]	
Epidermis, Hyperplasia	1 [2.0]			1 [2.0]		1 [2.0]
Epidermis, Inflammation, Suppurative	1 [2.0]			1 [4.0]		
Epidermis, Necrosis		1 [2.0]				
Fibrosis	1 [3.0]		1 [2.0]			
Foreign Body			1			
Hair Follicle, Hemorrhage						1 [2.0]
Hyperkeratosis	1 [2.0]	1 [3.0]		1 [2.0]	2 [2.0]	1 [2.0]
Inflammation, Chronic						
Inflammation, Chronic Active	24 [4.0]	14 [3.8]	21 [3.9]	16 [4.0]	28 [4.0]	28 [3.9]
Inflammation, Pyogranulomat					1 [4.0]	
Inflammation, Suppurative				2 [3.0]	1 [4.0]	1 [4.0]
Keratin Cyst						
Ulcer				1 [2.0]		
MUSCULOSKELETAL SYSTEM						
Bone	(2)	(0)	(0)	(1)	(0)	(0)
Bone, Femur	(51)	(50)	(50)	(50)	(50)	(50)
Skeletal Muscle	(1)	(1)	(1)	(2)	(2)	(0)
Degeneration						
NERVOUS SYSTEM						
Brain	(0)	(0)	(0)	(0)	(0)	(0)
Brain, Brain Stem	(49)	(50)	(50)	(50)	(50)	(48)
Compression	5 [2.2]	7 [2.0]	9 [2.7]	4 [2.3]	7 [2.6]	10 [2.5]
Gliosis						1 [1.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:24
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
Hemorrhage Meninges, Inflammation, Suppurative			1 [1.0]		1 [2.0]	3 [1.3]
Brain, Cerebellum	(49)	(50)	(50)	(50)	(50)	(48)
Angiectasis			1 [3.0]			
Gliosis						
Hemorrhage						
Hydrocephalus					2 [2.0]	
Brain, Cerebrum	(49)	(50)	(50)	(50)	(50)	(48)
Gliosis						
Hydrocephalus	1 [1.0]	3 [1.0]	1 [2.0]	1 [2.0]	3 [2.0]	4 [1.5]
Infiltration Cellular				1 [1.0]		
Meninges, Hyperplasia						
Peripheral Nerve	(0)	(1)	(1)	(2)	(2)	(0)
RESPIRATORY SYSTEM						
Lung	(46)	(46)	(48)	(48)	(50)	(45)
Alveolar Epith, Hyperplasia	7 [1.3]	2 [2.5]	4 [2.0]	3 [1.7]	6 [1.5]	9 [1.7]
Artery, Mineralization				2 [1.0]	2 [1.0]	3 [1.0]
Congestion		1 [4.0]				
Hemorrhage						
Infiltration Cellular, Histiocyte	18 [1.5]	18 [1.4]	13 [1.6]	11 [1.5]	23 [1.4]	17 [1.6]
Infiltration Cellular, Lymphocyte				1 [2.0]		
Inflammation, Chronic					2 [1.0]	
Inflammation, Chronic Active		1 [1.0]	2 [2.0]	1 [1.0]	2 [2.0]	1 [2.0]
Mediastinum, Hemorrhage	1 [4.0]					
Mediastinum, Inflammation, Suppurative	1 [4.0]					
Mediastinum, Necrosis	1 [4.0]					
Metaplasia, Osseous	1 [1.0]	1 [1.0]	3 [1.0]	1 [1.0]		2 [1.0]
Polyarteritis						
Thrombosis						1 [4.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:24
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
Nose	(48)	(49)	(50)	(49)	(49)	(48)
Exudate		1 [2.0]			1 [2.0]	
Foreign Body				1		
Infiltration Cellular, Lymphocyte						
Inflammation, Chronic Active	3 [2.0]		1 [2.0]		3 [2.0]	3 [1.7]
Inflammation, Suppurative	4 [1.5]	6 [1.8]	7 [2.4]	7 [2.4]	6 [2.0]	2 [1.5]
Metaplasia, Squamous		1 [3.0]				
Mucosa, Hyperkeratosis	2 [3.0]				2 [3.0]	1 [4.0]
Mucosa, Hyperplasia					1 [4.0]	1 [4.0]
Mucosa, Keratin Cyst			2	1	1	1
Polyp, Inflammatory		1 [4.0]				
Vomeronas Org, Dilatation		3 [3.3]	3 [3.0]		1 [3.0]	
Trachea	(49)	(50)	(50)	(50)	(50)	(46)
Epithelium, Hyperplasia				1 [2.0]		
Infiltration Cellular, Lymphocyte				1 [2.0]		
SPECIAL SENSES SYSTEM						
Ear	(0)	(0)	(0)	(0)	(0)	(0)
Eye	(46)	(46)	(47)	(46)	(49)	(45)
Bilateral, Cataract	2					
Bilateral, Retina, Degeneration				1 [4.0]		
Cataract	1			1		
Cornea, Hemorrhage						
Cornea, Inflammation, Chronic Active				1 [2.0]		
Hemorrhage	1 [4.0]					
Inflammation, Chronic Active				1 [4.0]		
Inflammation, Suppurative	1 [4.0]			2 [4.0]	1 [4.0]	
Retina, Degeneration						1 [3.0]
Harderian Gland	(48)	(47)	(48)	(48)	(50)	(46)
Acinus, Degeneration			4 [1.3]	1 [1.0]	2 [1.0]	

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:24
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
Degeneration			1 [3.0]			
Infiltration Cellular, Lymphocyte Inflammation, Suppurative Polyarteritis	3 [1.0]		1 [2.0]	5 [1.0]	3 [1.3]	1 [2.0]
Lacrimal Gland	(0)	(0)	(0)	(2)	(0)	(1)
Ectopic Harderian				1 [3.0]		1
Zymbal's Gland	(1)	(0)	(0)	(2)	(1)	(0)
Inflammation, Suppurative					1 [4.0]	
URINARY SYSTEM						
Kidney	(46)	(49)	(48)	(49)	(49)	(47)
Capsule, Inflammation, Chronic Active Cyst	20	18	21	19	25	24
Hemorrhage Hydronephrosis			1 [1.0]		2 [2.5]	2 [4.0]
Infiltration Cellular, Lymphocyte Inflammation, Suppurative					1 [3.0]	1 [3.0]
Medulla, Cyst	1		1		1	
Mineralization			1 [1.0]	4 [1.5]	1 [3.0]	
Nephropathy	42 [1.8]	41 [1.5]	46 [1.7]	40 [1.8]	47 [1.8]	44 [2.0]
Pelvis, Hemorrhage					1 [3.0]	
Pelvis, Inflammation, Suppurative		2 [2.0]	2 [1.5]	1 [3.0]	2 [3.5]	
Polyarteritis						
Polycystic Kidney			1 [4.0]		1 [4.0]	
Renal Tubule, Hyperplasia			1 [1.0]	1 [1.0]	1 [2.0]	
Transit Epithe, Hyperplasia	3 [2.7]	2 [2.0]	5 [2.4]		1 [1.0]	
Urethra	(2)	(2)	(0)	(2)	(1)	(5)
Hemorrhage					1 [3.0]	
Urinary Bladder	(45)	(48)	(49)	(49)	(49)	(45)
Dilatation	1 [4.0]				2 [4.0]	3 [3.7]

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

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

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

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:24
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
Hemorrhage				2 [2.5]	1 [3.0]	1 [4.0]
Inflammation, Chronic Active					1 [2.0]	
Inflammation, Suppurative				2 [2.5]	1 [3.0]	1 [3.0]
Transit Epithe, Hyperplasia				1 [2.0]	2 [1.5]	

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:24
 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
Disposition Summary					
Animals Initially In Study	50	50	49	50	50
Early Deaths					
Moribund Sacrifice	14	5	3	4	3
Natural Death	3	4	3	4	2
Survivors					
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
ALIMENTARY SYSTEM					
Esophagus	(50)	(50)	(48)	(50)	(50)
Dilatation				1 [4.0]	
Hyperkeratosis		3 [2.3]	4 [2.0]		1 [2.0]
Inflammation, Suppurative					
Intestine Large, Cecum	(46)	(45)	(43)	(47)	(47)
Dilatation				1 [3.0]	
Edema			1 [4.0]		
Hyperplasia, Lymphoid					
Inflammation, Chronic Active					1 [4.0]
Inflammation, Suppurative			1 [3.0]		
Necrosis					1 [4.0]
Polyarteritis					1 [2.0]
Intestine Large, Colon	(48)	(45)	(43)	(48)	(48)
Dilatation					
Hyperplasia, Lymphoid					
Polyarteritis	1 [2.0]				
Intestine Large, Rectum	(48)	(45)	(44)	(48)	(48)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:24
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
Dilatation					
Infiltration Cellular, Lymphocyte			1 [2.0]		
Inflammation, Chronic Active					1 [3.0]
Necrosis					1 [3.0]
Intestine Small, Duodenum	(47)	(44)	(43)	(47)	(47)
Intestine Small, Ileum	(45)	(44)	(38)	(47)	(47)
Dilatation					
Inflammation, Chronic Active					1 [4.0]
Necrosis					1 [4.0]
Ulcer					1 [3.0]
Intestine Small, Jejunum	(48)	(44)	(41)	(45)	(46)
Dilatation					
Inflammation, Chronic Active					
Lymphoid Tiss, Hyperplasia				1 [2.0]	
Liver	(49)	(49)	(47)	(50)	(49)
Angiectasis	1 [1.0]	3 [1.7]	1 [2.0]	1 [3.0]	5 [1.8]
Basophilic Focus	6	9	7	5	7
Bile Duct, Hyperplasia	4 [1.0]	8 [1.9]	9 [1.0]	11 [1.5]	5 [1.2]
Biliar Tract, Cyst		1		1	1
Biliar Tract, Fibrosis		7 [1.1]	4 [1.0]	7 [1.1]	3 [1.3]
Capsule, Fibrosis					
Capsule, Inflammation, Chronic Active			1 [2.0]		
Clear Cell Focus					
Congestion				1 [3.0]	
Cyst	2	1	1		
Cyst Multilocular		2			1
Cytomegaly				1 [2.0]	
Degeneration, Cystic	10 [1.4]	10 [1.3]	7 [1.4]	6 [1.2]	5 [1.4]
Eosinophilic Focus	10	8	5	4	5

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:24
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
Focal Cellular Change					
Hematopoietic Cell Proliferation	2 [1.0]	1 [1.0]	1 [1.0]	2 [1.0]	3 [1.0]
Hepatodiaphragmatic Nodule	3	8	2	4	7
Hyperplasia					1 [2.0]
Hyperplasia, Regenerative		1 [4.0]	1 [4.0]		
Infiltration Cellular, Lymphocyte	2 [1.0]	2 [1.0]	2 [1.5]	4 [1.0]	
Inflammation, Chronic					
Inflammation, Chronic Active	12 [1.1]	6 [1.2]	7 [1.3]	3 [1.0]	4 [2.5]
Inflammation, Suppurative					1 [2.0]
Karyomegaly				1 [2.0]	
Left Lat Lobe, Developmental Malformation		1			
Mixed Cell Focus		1			
Necrosis	1 [1.0]	2 [2.0]	4 [2.0]	2 [2.5]	3 [3.0]
Oval Cell, Hyperplasia				1 [1.0]	1 [2.0]
Pigmentation		1 [2.0]			
Tension Lipidosis	2 [2.0]	3 [2.7]	1 [2.0]	2 [2.0]	2 [2.0]
Vacuolization Cytoplasmic	12 [1.6]	6 [1.7]	7 [2.1]	6 [1.7]	3 [2.3]
Mesentery	(0)	(4)	(0)	(6)	(3)
Abscess				1 [4.0]	
Fat, Necrosis		4 [3.8]		4 [3.5]	3 [4.0]
Oral Mucosa	(6)	(3)	(8)	(4)	(6)
Gingival, Inflammation, Chronic Active			1 [2.0]		
Inflammation, Suppurative		1 [2.0]		1 [3.0]	
Keratin Cyst	1		3	3	1
Pancreas	(50)	(47)	(48)	(49)	(49)
Acinar Cell, Degeneration	46 [2.1]	42 [2.0]	39 [2.1]	36 [2.3]	40 [2.1]
Basophilic Focus					
Infiltration Cellular, Lymphocyte					1 [4.0]
Polyarteritis	1 [1.0]	1 [2.0]	1 [2.0]		1 [3.0]

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:25
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
Salivary Glands	(49)	(48)	(49)	(49)	(50)
Acinus, Degeneration					
Duct, Dilatation					
Infiltration Cellular, Lymphocyte					1 [4.0]
Inflammation, Chronic Active					
Inflammation, Suppurative					
Stomach, Forestomach	(49)	(46)	(48)	(49)	(49)
Edema				2 [2.5]	
Epithelium, Hyperplasia	2 [2.5]	1 [1.0]	1 [2.0]	2 [2.0]	
Hyperkeratosis		2 [2.0]	1 [2.0]	1 [2.0]	1 [2.0]
Hyperplasia, Basal Cell					
Inflammation, Chronic Active				1 [2.0]	
Inflammation, Suppurative					
Keratin Cyst					
Necrosis					
Ulcer					
Stomach, Glandular	(49)	(45)	(46)	(47)	(47)
Cyst					
Edema					
Epithelium, Hyperplasia					
Infiltration Cellular, Lymphocyte					1 [3.0]
Tongue	(1)	(0)	(0)	(0)	(0)
Inflammation, Chronic Active	1 [2.0]				
CARDIOVASCULAR SYSTEM					
Blood Vessel	(50)	(50)	(49)	(50)	(50)
Heart	(50)	(50)	(49)	(50)	(50)
Atrium, Dilatation	2 [3.5]	2 [3.0]	2 [3.0]	1 [1.0]	
Atrium, Thrombosis					
Cardiomyopathy	41 [1.6]	40 [1.7]	37 [1.5]	38 [1.7]	42 [1.5]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:25
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
Endocardium, Hyperplasia Inflammation, Suppurative Metaplasia, Osseous Polyarteritis Ventricle, Dilatation	1 [2.0]	1 [3.0]	1 [4.0] 2 [1.0] 1 [2.0] 1 [1.0]	1 [2.0]	1 [2.0]
ENDOCRINE SYSTEM					
Adrenal Cortex	(50)	(49)	(49)	(49)	(50)
Accessory Adrenal Cortical Nodule		1		4	1
Angiectasis	2 [2.0]	3 [2.0]	1 [2.0]	1 [2.0]	2 [1.5]
Atrophy	1 [4.0]				
Bilateral, Hyperplasia Cyst		1 [2.0]			
Degeneration, Cystic	6 [1.7]	2 [1.0]	4 [1.5]	5 [1.8]	1 [1.0]
Hyperplasia	14 [1.6]	7 [1.1]	7 [1.9]	3 [1.0]	4 [2.3]
Hypertrophy	6 [1.8]	3 [2.0]	5 [1.8]	4 [2.5]	4 [1.3]
Metaplasia, Osseous Pigmentation Vacuolization Cytoplasmic	15 [1.3]	7 [1.6]	8 [1.4]	9 [1.4]	4 [1.5]
Adrenal Medulla	(50)	(49)	(48)	(49)	(50)
Angiectasis Atrophy Bilateral, Hyperplasia Cyst					
Hyperplasia	7 [1.4]	15 [1.9]	9 [1.0]	8 [1.6]	10 [1.7]
Islets, Pancreatic	(50)	(48)	(48)	(50)	(50)
Degeneration Hyperplasia	7 [1.0]	7 [1.0]	13 [1.2]	8 [1.3]	10 [1.1]
Parathyroid Gland	(50)	(47)	(44)	(50)	(46)
Bilateral, Hyperplasia	1 [2.0]		1 [1.0]	1 [3.0]	

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:25
 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
Cyst			1		
Hyperplasia	6 [1.8]	4 [1.8]	2 [2.0]	7 [1.4]	6 [1.7]
Pituitary Gland	(49)	(49)	(48)	(49)	(50)
Inflammation, Suppurative			1 [4.0]		
Necrosis			1 [4.0]		
Pars Distalis, Cyst	1	3	5	6	6
Pars Distalis, Hyperplasia	10 [2.0]	8 [1.5]	18 [2.1]	15 [1.7]	13 [2.1]
Pars Intermed, Cyst	1		3	2	2
Pars Intermed, Hyperplasia					
Thyroid Gland	(49)	(48)	(49)	(50)	(50)
C Cell, Hyperplasia	7 [1.6]	4 [1.3]	6 [1.8]	4 [1.0]	3 [1.7]
Cyst, Squamous	8	12	12	13	9
Follicle, Cyst				1	
Follicular Cel, Hyperplasia				1 [2.0]	
Infiltration Cellular, Lymphocyte					
Inflammation, Chronic Active			1 [1.0]		
GENERAL BODY SYSTEM					
Tissue NOS	(0)	(0)	(0)	(0)	(1)
Degeneration, Cystic					
Infiltration Cellular, Plasma Cell					
GENITAL SYSTEM					
Coagulating Gland	(48)	(47)	(49)	(48)	(50)
Atrophy	2 [2.0]	1 [3.0]	1 [2.0]	1 [3.0]	2 [3.0]
Degeneration, Cystic					
Developmental Malformation	8	6	5	6	9
Hemorrhage					
Inflammation, Chronic Active		1 [2.0]			
Inflammation, Suppurative	1 [1.0]				1 [4.0]

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

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:25
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
Lumen, Dilatation	3 [2.7]		2 [3.0]		1 [2.0]
Ductus Deferens	(0)	(0)	(0)	(0)	(1)
Dilatation					1 [4.0]
Inflammation, Chronic Active					1 [4.0]
Inflammation, Suppurative					
Epididymis	(50)	(49)	(49)	(50)	(50)
Atrophy	8 [2.1]	4 [2.3]	7 [2.3]	7 [2.6]	5 [2.2]
Granuloma Sperm					1 [4.0]
Hyperplasia					
Hypospermia	8 [3.8]	4 [4.0]	9 [3.7]	8 [4.0]	7 [3.4]
Infiltration Cellular, Lymphocyte				2 [1.5]	
Polyarteritis	1 [2.0]				1 [3.0]
Penis	(0)	(0)	(0)	(0)	(1)
Dilatation					
Preputial Gland	(50)	(49)	(49)	(50)	(49)
Abscess	1 [4.0]		1 [4.0]	2 [4.0]	2 [4.0]
Atrophy	6 [2.8]	1 [3.0]	4 [2.5]	3 [2.7]	2 [2.0]
Cyst					
Duct, Dilatation	12 [2.2]	12 [2.0]	8 [2.1]	11 [2.4]	12 [2.5]
Hyperplasia, Basal Cell					
Infiltration Cellular, Lymphocyte	8 [1.6]	10 [1.6]	8 [1.4]	9 [1.2]	7 [1.3]
Inflammation, Chronic Active	3 [2.3]	1 [1.0]	4 [1.5]	1 [2.0]	2 [1.5]
Inflammation, Suppurative	23 [2.4]	21 [2.3]	19 [2.4]	24 [2.3]	22 [2.5]
Keratin Cyst	2				2
Polyarteritis	1 [2.0]				
Prostate, Dorsal/Lateral Lobe	(38)	(43)	(38)	(41)	(43)
Atrophy	1 [3.0]		1 [2.0]		2 [3.5]
Cyst		1		2	
Degeneration	1 [2.0]				

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:25
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
Dilatation					1 [2.0]
Hemorrhage					1 [2.0]
Infiltration Cellular, Lymphocyte			2 [1.0]		
Inflammation, Chronic Active	3 [2.3]	11 [1.5]	5 [1.6]	7 [2.1]	5 [1.8]
Inflammation, Suppurative	35 [1.7]	32 [1.7]	30 [1.9]	34 [1.8]	36 [1.6]
Prostate, Dorsal/lateral Lobe	(12)	(7)	(10)	(9)	(7)
Prostate, Ventral Lobe	(50)	(49)	(48)	(50)	(50)
Atrophy			1 [2.0]		2 [3.5]
Degeneration					
Dilatation					1 [2.0]
Hemorrhage					1 [2.0]
Hyperplasia	3 [1.3]	4 [2.0]	3 [1.3]	2 [2.0]	3 [1.3]
Infiltration Cellular, Lymphocyte	2 [1.0]	1 [1.0]	4 [1.3]	2 [1.0]	3 [1.7]
Inflammation, Chronic Active	4 [2.5]	5 [1.8]	7 [1.7]	4 [2.5]	5 [1.8]
Inflammation, Suppurative	3 [2.0]	3 [1.0]	1 [4.0]	4 [2.5]	2 [1.0]
Rete Testes	(46)	(46)	(45)	(43)	(44)
Dilatation	5 [1.2]	4 [2.3]	3 [1.7]	4 [2.0]	2 [2.0]
Fibrosis		1 [2.0]	2 [1.5]	1 [3.0]	
Seminal Vesicle	(48)	(44)	(44)	(47)	(47)
Atrophy	5 [2.4]	7 [2.4]	5 [2.2]	4 [2.0]	10 [2.3]
Dilatation					
Epithelium, Hyperplasia	1 [4.0]				
Hemorrhage					
Inflammation, Chronic Active		1 [4.0]			
Inflammation, Suppurative	2 [3.0]				1 [3.0]
Lumen, Dilatation		2 [3.5]	4 [2.8]	3 [3.3]	6 [2.5]
Testes	(50)	(50)	(49)	(50)	(50)
Granuloma Sperm					
Interstit Cell, Hyperplasia					

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:25
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
Malformation					
Polyarteritis	1 [2.0]			1 [3.0]	1 [2.0]
Seminif Tub, Degeneration	23 [2.0]	19 [2.3]	20 [2.3]	17 [2.7]	19 [2.5]
HEMATOPOIETIC SYSTEM					
Bone Marrow	(49)	(49)	(49)	(50)	(50)
Erythroid Cell, Hyperplasia	1 [4.0]				2 [2.0]
Hypocellularity			1 [2.0]		2 [2.0]
Myeloid Cell, Hyperplasia	7 [2.3]	3 [2.7]	6 [2.0]	12 [2.0]	7 [3.1]
Sinusoid, Dilatation				1 [4.0]	
Lymph Node	(19)	(14)	(16)	(13)	(16)
Axillary, Degeneration, Cystic					1 [1.0]
Axillary, Hyperplasia, Lymphoid	2 [4.0]				1 [3.0]
Axillary, Infiltration Cellular, Plasma Cell	2 [3.0]				1 [3.0]
Degeneration, Cystic					
Hemal, Degeneration, Cystic					1 [2.0]
Hemal, Inflammation, Chronic Active					
Hemal, Necrosis					
Inguinal, Degeneration, Cystic	1 [4.0]		1 [2.0]		
Inguinal, Hyperplasia, Lymphoid	1 [3.0]				
Inguinal, Infiltration Cellular, Plasma Cell			1 [2.0]		
Lumbar, Degeneration, Cystic	17 [3.1]	10 [2.8]	8 [3.1]	7 [2.9]	10 [3.0]
Lumbar, Hyperplasia, Lymphoid	4 [2.8]	4 [2.5]	4 [2.8]	2 [2.5]	3 [2.7]
Lumbar, Infiltration Cellular, Plasma Cell	9 [3.0]	4 [2.8]	8 [3.4]	5 [2.6]	5 [3.2]
Mediastinal, Degeneration, Cystic	1 [1.0]			1 [2.0]	
Mediastinal, Infiltration Cellular, Histiocyte	1 [3.0]				
Mediastinal, Infiltration Cellular, Plasma Cell					
Pancreatic, Degeneration, Cystic					
Pancreatic, Hyperplasia, Lymphoid	1 [2.0]				1 [3.0]
Pancreatic, Inflammation, Granulomatous					1 [2.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:26
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
Pancreatic, Necrosis					1 [3.0]
Popliteal, Degeneration, Cystic					
Popliteal, Hyperplasia, Lymphoid			2 [2.5]	2 [3.0]	2 [2.5]
Popliteal, Infiltration Cellular, Plasma Cell	1 [4.0]		2 [2.5]	2 [3.0]	2 [2.0]
Renal, Degeneration, Cystic	4 [3.8]	2 [2.5]	6 [3.0]	3 [3.7]	2 [4.0]
Renal, Hyperplasia, Lymphoid			1 [3.0]		
Renal, Infiltration Cellular, Plasma Cell	2 [3.0]	1 [3.0]	3 [3.0]		
Thoracic, Degeneration, Cystic					
Thoracic, Infiltration Cellular, Plasma Cell	1 [3.0]				
Lymph Node, Mandibular	(50)	(46)	(48)	(50)	(49)
Degeneration, Cystic	15 [1.9]	10 [2.5]	11 [1.7]	11 [1.8]	7 [2.1]
Hyperplasia, Lymphoid	29 [2.2]	24 [2.2]	27 [1.9]	29 [2.0]	28 [2.1]
Infiltration Cellular, Plasma Cell	33 [2.2]	28 [2.4]	26 [2.2]	30 [2.1]	28 [2.0]
Necrosis					1 [3.0]
Lymph Node, Mesenteric	(48)	(44)	(46)	(49)	(48)
Degeneration, Cystic	2 [3.0]				
Hyperplasia, Lymphoid	8 [2.0]	2 [2.0]	1 [2.0]	1 [2.0]	1 [4.0]
Infiltration Cellular, Mast Cell		1 [2.0]	1 [2.0]		1 [2.0]
Infiltration Cellular, Plasma Cell					
Inflammation, Granulomatous	7 [2.0]	11 [1.6]	6 [1.2]	10 [1.6]	8 [1.6]
Pigmentation					1 [3.0]
Spleen	(50)	(49)	(48)	(49)	(50)
Capsule, Cyst					
Depletion Lymphoid	2 [3.0]	1 [4.0]		1 [2.0]	1 [3.0]
Hematopoietic Cell Proliferation	21 [1.8]	13 [1.9]	13 [1.8]	8 [1.4]	15 [2.0]
Hyperplasia, Lymphoid	2 [2.0]	2 [1.5]	3 [1.7]	4 [1.5]	2 [2.0]
Hyperplasia, Stromal				2 [3.0]	
Infiltration Cellular, Plasma Cell					1 [2.0]
Infiltration Cellular, Polymorphnuclr	1 [2.0]		1 [4.0]	1 [2.0]	3 [3.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:26
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
Inflammation, Chronic Active					
Inflammation, Suppurative			1 [4.0]		
Necrosis			1 [4.0]		2 [2.0]
Pigmentation	16 [1.9]	30 [1.7]	28 [2.0]	29 [1.8]	27 [2.0]
Polyarteritis		1 [2.0]	1 [4.0]		
Red Pulp, Hyperplasia					
Thymus	(47)	(47)	(45)	(47)	(45)
Atrophy	47 [3.9]	45 [3.9]	41 [3.6]	45 [3.8]	43 [3.9]
Cyst			2	1	
Cyst, Squamous					
Degeneration, Cystic					
Epithel Cell, Hyperplasia	1 [2.0]	8 [1.6]	7 [1.9]	1 [2.0]	4 [1.8]
Polyarteritis			1 [3.0]		
INTEGUMENTARY SYSTEM					
Mammary Gland	(48)	(42)	(42)	(40)	(45)
Acinus, Degeneration	11 [2.1]	25 [2.6]	21 [2.6]	17 [2.4]	26 [2.8]
Alveolus, Hyperplasia	14 [1.9]	2 [2.0]	6 [2.3]	4 [1.3]	9 [1.7]
Atypical Focus	1		1 [2.0]	1 [2.0]	
Cyst			1		
Duct, Dilatation	1 [4.0]				
Duct, Ectasia					
Duct, Hyperplasia	3 [2.0]				1 [2.0]
Duct, Inflammation, Chronic Active					
Ectasia	4 [1.8]	3 [1.3]	4 [2.3]	6 [1.5]	4 [2.3]
Fibrosis	1 [4.0]			1 [4.0]	
Galactocele			2		2
Lactation	9 [2.0]	7 [1.4]	6 [2.0]	7 [1.7]	8 [1.9]
Polyarteritis			1 [2.0]		
Skin	(50)	(50)	(49)	(50)	(50)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:26
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
Abscess	1 [4.0]	1 [4.0]	1 [4.0]		
Cyst Epithelial Inclusion	4	4	4	2	2
Dermis, Fibrosis					
Dermis, Inflammation, Chronic Active					
Dermis, Necrosis					
Epidermis, Hyperplasia					
Epidermis, Inflammation, Suppurative					
Epidermis, Necrosis					
Fibrosis		1 [4.0]	1 [4.0]		
Foreign Body					
Hair Follicle, Hemorrhage					
Hyperkeratosis		1 [2.0]			
Inflammation, Chronic		1 [4.0]			
Inflammation, Chronic Active	29 [4.0]	20 [4.0]	17 [4.0]	10 [4.0]	13 [4.0]
Inflammation, Pyogranulomat					
Inflammation, Suppurative	1 [4.0]				
Keratin Cyst	1				1
Ulcer					
MUSCULOSKELETAL SYSTEM					
Bone	(1)	(0)	(1)	(1)	(0)
Bone, Femur	(50)	(49)	(49)	(50)	(50)
Skeletal Muscle	(1)	(3)	(4)	(3)	(0)
Degeneration		1 [1.0]	2 [1.5]	1 [2.0]	
NERVOUS SYSTEM					
Brain	(0)	(0)	(0)	(0)	(1)
Brain, Brain Stem	(50)	(49)	(49)	(50)	(50)
Compression	7 [3.1]	7 [1.9]	9 [2.8]	9 [2.3]	2 [3.5]
Gliosis					

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:26
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
Hemorrhage		1 [2.0]			
Meninges, Inflammation, Suppurative			1 [3.0]		
Brain, Cerebellum	(50)	(49)	(49)	(50)	(50)
Angiectasis					
Gliosis	1 [1.0]				
Hemorrhage	1 [1.0]				
Hydrocephalus					
Brain, Cerebrum	(50)	(49)	(49)	(50)	(50)
Gliosis				1 [2.0]	1 [2.0]
Hydrocephalus	4 [1.8]	1 [2.0]	2 [2.0]	1 [1.0]	3 [1.0]
Infiltration Cellular					
Meninges, Hyperplasia	1 [2.0]				
Peripheral Nerve	(0)	(2)	(4)	(2)	(0)
RESPIRATORY SYSTEM					
Lung	(50)	(47)	(48)	(48)	(50)
Alveolar Epith, Hyperplasia	3 [1.3]	3 [1.7]	8 [1.8]	3 [1.3]	4 [1.3]
Artery, Mineralization	2 [1.0]				
Congestion					
Hemorrhage	1 [2.0]				
Infiltration Cellular, Histiocyte	11 [1.4]	19 [1.2]	19 [1.5]	14 [1.2]	14 [1.2]
Infiltration Cellular, Lymphocyte				1 [2.0]	1 [4.0]
Inflammation, Chronic					
Inflammation, Chronic Active	1 [1.0]		2 [2.5]		1 [3.0]
Mediastinum, Hemorrhage					
Mediastinum, Inflammation, Suppurative					
Mediastinum, Necrosis					
Metaplasia, Osseous	1 [1.0]	1 [1.0]	1 [1.0]	1 [1.0]	
Polyarteritis				1 [3.0]	
Thrombosis					

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:26
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
Nose	(50)	(49)	(48)	(49)	(50)
Exudate					
Foreign Body					
Infiltration Cellular, Lymphocyte					1 [3.0]
Inflammation, Chronic Active		2 [2.0]	2 [2.0]	1 [2.0]	1 [2.0]
Inflammation, Suppurative	5 [2.6]	2 [1.0]	6 [1.5]	8 [1.8]	3 [2.3]
Metaplasia, Squamous Mucosa, Hyperkeratosis Mucosa, Hyperplasia					
Mucosa, Keratin Cyst		1	1	1	1
Polyp, Inflammatory					
Vomeronas Org, Dilatation			2 [3.0]		
Trachea	(50)	(49)	(49)	(50)	(50)
Epithelium, Hyperplasia Infiltration Cellular, Lymphocyte					
SPECIAL SENSES SYSTEM					
Ear	(0)	(0)	(0)	(1)	(1)
Eye	(48)	(46)	(47)	(48)	(50)
Bilateral, Cataract					3
Bilateral, Retina, Degeneration					
Cataract	2		1		
Cornea, Hemorrhage			1 [2.0]		
Cornea, Inflammation, Chronic Active Hemorrhage					
Inflammation, Chronic Active	1 [3.0]	1 [2.0]	2 [4.0]	1 [2.0]	
Inflammation, Suppurative		1 [3.0]	1 [4.0]		
Retina, Degeneration	1 [4.0]				1 [2.0]
Harderian Gland	(50)	(49)	(48)	(50)	(50)
Acinus, Degeneration	5 [1.8]	3 [1.3]	3 [2.0]	3 [1.3]	

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:26
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
Degeneration					
Infiltration Cellular, Lymphocyte	8 [1.4]	2 [1.5]	1 [1.0]	1 [2.0]	4 [1.0]
Inflammation, Suppurative		1 [1.0]	1 [4.0]		1 [1.0]
Polyarteritis	1 [1.0]				
Lacrimal Gland	(1)	(1)	(1)	(2)	(1)
Ectopic Harderian		1	1	2	1
Zymbal's Gland	(0)	(1)	(0)	(2)	(0)
Inflammation, Suppurative				1 [4.0]	
URINARY SYSTEM					
Kidney	(49)	(49)	(48)	(50)	(50)
Capsule, Inflammation, Chronic Active					
Cyst	23	18	19	18	27
Hemorrhage					1 [2.0]
Hydronephrosis		2 [1.5]	3 [2.0]	3 [2.0]	3 [3.3]
Infiltration Cellular, Lymphocyte					1 [2.0]
Inflammation, Suppurative					1 [3.0]
Medulla, Cyst					
Mineralization	4 [1.3]				
Nephropathy	46 [2.0]	46 [1.8]	44 [1.5]	44 [1.7]	48 [1.8]
Pelvis, Hemorrhage					
Pelvis, Inflammation, Suppurative	1 [2.0]			1 [2.0]	
Polyarteritis		1 [1.0]	1 [2.0]		
Polycystic Kidney					1 [4.0]
Renal Tubule, Hyperplasia	1 [1.0]			1 [2.0]	
Transit Epithe, Hyperplasia	2 [2.0]		1 [2.0]	4 [1.5]	1 [4.0]
Urethra	(1)	(3)	(1)	(1)	(0)
Hemorrhage					
Urinary Bladder	(49)	(49)	(48)	(49)	(50)
Dilatation					1 [4.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:26
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
Hemorrhage				1 [4.0]	
Inflammation, Chronic Active		1 [1.0]			
Inflammation, Suppurative				1 [3.0]	
Transit Epithe, Hyperplasia					

END OF MALE DATA

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:26
 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
Disposition Summary						
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
ALIMENTARY SYSTEM						
Esophagus	(51)	(50)	(49)	(50)	(50)	(50)
Hemorrhage				1 [2.0]		
Inflammation		2 [3.0]	1 [4.0]	1 [4.0]	1 [4.0]	2 [4.0]
Necrosis					1 [4.0]	
Intestine Large, Cecum	(51)	(50)	(49)	(49)	(50)	(50)
Dilatation					1 [2.0]	
Erosion					1 [3.0]	
Inflammation, Chronic		1 [2.0]			1 [2.0]	
Intestine Large, Colon	(51)	(50)	(49)	(49)	(50)	(50)
Developmental Malformation			1			
Dilatation						
Inflammation		1 [1.0]				
Lymphoid Tiss, Inflammation		1 [3.0]				
Mineralization			1 [2.0]			
Muscularis, Inflammation, Chronic			1 [2.0]			
Intestine Large, Rectum	(51)	(50)	(49)	(50)	(50)	(50)
Inflammation, Chronic		1 [1.0]				

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:27
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
Intestine Small, Duodenum	(51)	(50)	(49)	(49)	(50)	(50)
Autolysis				1 [3.0]		
Dilatation			1 [3.0]			
Intestine Small, Ileum	(51)	(50)	(48)	(49)	(48)	(50)
Autolysis				1 [3.0]		
Lymphoid Tiss, Inflammation, Chronic Active						
Intestine Small, Jejunum	(51)	(50)	(47)	(47)	(48)	(50)
Autolysis				1 [3.0]		
Inflammation, Chronic		1 [4.0]				
Liver	(51)	(50)	(49)	(50)	(50)	(50)
Angiectasis	2 [1.5]	1 [1.0]	1 [2.0]	1 [2.0]	2 [1.5]	4 [2.0]
Basophilic Focus	1	1	1	1	1	1
Bile Duct, Hyperplasia	13 [1.4]	15 [1.3]	10 [1.3]	10 [1.2]	7 [1.7]	16 [1.4]
Capsule, Hemorrhage, Focal	2 [2.0]				1 [2.0]	
Caudate Lobe, Developmental Malformation						
Centrilobular, Necrosis			1 [3.0]			
Cyst		1			2	2
Cyst Multilocular	3		1		2	1
Degeneration, Cystic	1 [2.0]			2 [1.5]	3 [2.3]	5 [1.6]
Eosinophilic Focus	1	1	1	5	2	5
Eosinophilic Focus, Multiple						
Hematopoietic Cell Proliferation	2 [1.0]	4 [1.0]	3 [1.7]	1 [2.0]	2 [1.5]	1 [1.0]
Hepatocyte, Periportal, Hypertrophy						
Hepatodiaphragmatic Nodule	1			1	2	
Infiltration Cellular, Lymphocyte	3 [1.0]	2 [1.0]	1 [1.0]	1 [1.0]		1 [1.0]
Inflammation, Chronic Active	6 [1.0]	1 [1.0]	6 [1.2]	5 [1.0]	3 [2.0]	6 [1.0]
Left Lat Lobe, Developmental Malformation						
Median Lobe, Developmental Malformation					1	

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:27
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
Mixed Cell Focus						
Necrosis					2 [2.5]	
Oval Cell, Hyperplasia					1 [3.0]	
Periportal, Inflammation, Chronic	3 [1.0]	7 [1.3]	5 [1.0]	5 [1.0]	3 [1.7]	5 [1.0]
Right Lat Lobe, Developmental Malformation		1				
Tension Lipidosis			1 [2.0]	1		
Vacuolization Cytoplasmic	12 [2.2]	8 [1.8]	4 [2.0]	2 [2.0]	9 [2.0]	11 [2.2]
Mesentery	(2)	(2)	(0)	(1)	(2)	(1)
Cyst					1	
Fat, Necrosis	2 [2.0]	1 [3.0]		1 [2.0]	2 [3.0]	
Oral Mucosa	(3)	(1)	(4)	(4)	(5)	(7)
Abscess						
Gingival, Inflammation				1 [3.0]		
Keratin Cyst			3	2	2	4
Pancreas	(51)	(50)	(49)	(49)	(50)	(50)
Accessory Spleen						
Acinar Cell, Degeneration	20 [2.0]	24 [1.8]	20 [2.0]	24 [1.8]	19 [1.6]	26 [1.9]
Acinar Cell, Hyperplasia				1 [1.0]		1 [2.0]
Artery, Inflammation, Chronic						1 [2.0]
Artery, Mineralization			1 [2.0]			
Inflammation, Chronic		7 [1.1]		1 [2.0]	1 [4.0]	
Lipomatosis	1 [2.0]	1 [2.0]	1 [2.0]	2 [3.0]	1 [2.0]	3 [2.0]
Salivary Glands	(51)	(49)	(49)	(50)	(50)	(50)
Artery, Mineralization			1 [2.0]			
Infiltration Cellular, Lymphocyte						
Inflammation, Chronic	1 [3.0]	2 [3.0]			2 [3.0]	1 [1.0]
Parotid Gl, Degeneration						
Stomach, Forestomach	(51)	(50)	(49)	(50)	(50)	(50)
Edema	1 [2.0]		1 [2.0]	2 [3.0]	3 [2.3]	

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:27
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
Hyperplasia	2 [2.5]	2 [2.0]		1 [2.0]	4 [2.3]	
Inflammation	1 [2.0]	4 [2.3]	1 [2.0]		2 [2.5]	
Keratin Cyst					1	
Ulcer				1 [3.0]		1 [3.0]
Stomach, Glandular	(51)	(50)	(49)	(50)	(50)	(50)
Edema						
Glands, Dilatation			1 [3.0]			
Infiltration Cellular, Lymphocyte		1 [2.0]			1 [2.0]	
Inflammation				1 [1.0]	1 [2.0]	
Mineralization			1 [3.0]			
Tongue	(0)	(0)	(0)	(0)	(0)	(0)
Tooth	(0)	(0)	(0)	(0)	(1)	(0)
Dysplasia					1 [3.0]	
CARDIOVASCULAR SYSTEM						
Blood Vessel	(51)	(50)	(49)	(50)	(50)	(50)
Mineralization			1 [3.0]		1 [1.0]	
Heart	(51)	(50)	(49)	(50)	(50)	(50)
Artery, Mineralization			1 [2.0]			
Cardiomyopathy	23 [1.5]	18 [1.4]	10 [1.3]	12 [1.3]	22 [1.3]	16 [1.1]
Endocardium, Hyperplasia						
Myocardium, Necrosis		1 [2.0]				
ENDOCRINE SYSTEM						
Adrenal Cortex	(51)	(50)	(49)	(50)	(50)	(50)
Accessory Adrenal Cortical Nodule						
Angiectasis	2 [2.0]	1 [2.0]		2 [2.0]	1 [1.0]	3 [2.0]
Atrophy	2 [2.5]		2 [2.5]		1 [2.0]	
Cyst				1 [4.0]		
Degeneration, Cystic	46 [2.8]	43 [2.6]	43 [2.5]	45 [2.5]	43 [2.7]	44 [2.6]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 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
Hematopoietic Cell Proliferation				1 [2.0]		1 [1.0]
Hyperplasia	1 [3.0]	3 [2.0]	1 [1.0]			
Hypertrophy	5 [1.6]	11 [2.1]	7 [1.9]	7 [2.3]	2 [2.0]	2 [2.5]
Infarct						
Metaplasia, Osseous	1 [3.0]					
Vacuolization Cytoplasmic	1 [1.0]		1 [2.0]			
Adrenal Medulla	(48)	(50)	(49)	(50)	(49)	(48)
Atrophy						
Hyperplasia					1 [1.0]	1 [2.0]
Islets, Pancreatic	(51)	(50)	(49)	(49)	(50)	(50)
Hyperplasia	1 [2.0]	1 [2.0]	3 [2.0]		1 [1.0]	
Parathyroid Gland	(48)	(47)	(46)	(43)	(46)	(44)
Hyperplasia		2 [2.0]	1 [2.0]	1 [2.0]	1 [2.0]	
Inflammation						
Thrombosis						
Pituitary Gland	(51)	(50)	(50)	(50)	(50)	(50)
Angiectasis	2 [2.0]					2 [2.0]
Cyst			1			
Degeneration, Cystic						
Hypertrophy, Focal						
Necrosis						
Pars Distalis, Cyst	2	2	1	1	1	1
Pars Distalis, Hyperplasia	4 [2.5]	3 [1.7]	3 [2.0]	2 [2.0]	2 [2.0]	4 [2.0]
Pars Intermed, Cyst	1	3			1	
Pigmentation						1 [3.0]
Thyroid Gland	(51)	(50)	(49)	(50)	(50)	(50)
C Cell, Hyperplasia	7 [1.4]	4 [1.5]	3 [2.0]	4 [2.0]		3 [2.0]
Cyst						
Follicle, Cyst						1 [2.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:27
 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
Follicular Cel, Hyperplasia				1 [1.0]	1 [3.0]	2 [1.5]
Infiltration Cellular, Lymphocyte	1 [1.0]				1 [1.0]	
Inflammation, Chronic	1 [1.0]	1 [3.0]		2 [1.0]		1 [1.0]
Ultimobranchial Cyst	2 [3.0]	4 [3.0]	1 [3.0]	5 [2.2]	1 [2.0]	2 [2.5]
GENERAL BODY SYSTEM						
Tissue NOS	(0)	(0)	(1)	(0)	(0)	(0)
GENITAL SYSTEM						
Clitoral Gland	(50)	(49)	(48)	(50)	(50)	(49)
Atrophy		6 [2.3]	4 [2.5]	2 [1.5]	3 [2.3]	1 [2.0]
Duct, Dilatation	11 [2.1]	12 [2.4]	10 [2.3]	9 [2.6]	17 [2.3]	9 [2.4]
Duct, Hyperplasia, Squamous	2 [3.0]	1 [3.0]	2 [2.0]		1 [1.0]	1 [2.0]
Duct, Inflammation						
Hyperplasia		2 [1.5]	2 [2.0]			1 [2.0]
Infiltration Cellular, Lymphocyte					1 [2.0]	
Infiltration Cellular, Mast Cell						
Inflammation	34 [2.1]	33 [2.2]	32 [2.1]	28 [2.3]	32 [2.0]	29 [2.2]
Inflammation, Suppurative						
Keratin Cyst						
Ovary	(51)	(50)	(49)	(50)	(50)	(50)
Angiectasis		1 [1.0]				
Atrophy	49 [2.7]	47 [3.1]	46 [3.2]	46 [3.3]	46 [3.2]	45 [2.9]
Corpus Luteum, Cyst	1	2	1	2	1	
Cyst	15	9	17	22	12	15
Granulosa Cell, Hyperplasia				1 [3.0]		
Hyperplasia, Sertoliform	23 [1.5]	17 [1.5]	13 [1.2]	23 [1.7]	20 [1.6]	19 [1.8]
Interstitial Cell, Hyperplasia		1 [3.0]	2 [2.5]		2 [2.5]	2 [3.0]
Rete Ovarii, Cyst						
Oviduct	(51)	(50)	(49)	(50)	(50)	(50)

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:28
 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
Pigmentation					1 [2.0]	
Uterus	(51)	(50)	(49)	(50)	(50)	(50)
Adenomyosis						
Atrophy	4 [2.3]	1 [2.0]	2 [2.0]		1 [2.0]	2 [2.0]
Cervix, Hyperplasia						1 [2.0]
Cervix, Muscularis, Hypertrophy						
Dilatation	1 [3.0]					
Endometrium, Degeneration						
Endometrium, Hyperplasia	2 [1.5]	7 [1.7]	3 [2.3]	12 [2.5]	2 [1.5]	5 [1.8]
Endometrium, Hyperplasia, Cystic	15 [1.9]	14 [2.1]	20 [1.9]	17 [2.0]	23 [1.9]	12 [1.8]
Hemorrhage		1 [2.0]				
Hyperplasia, Atypical, Focal	6 [1.0]	14 [1.4]	16 [1.4]	20 [1.6]	10 [1.3]	7 [1.6]
Hypoplasia		1 [3.0]			1 [3.0]	
Inflammation	2 [1.5]	1 [1.0]		1 [1.0]	3 [1.3]	2 [1.5]
Metaplasia, Squamous	2 [1.0]	6 [2.0]	8 [1.4]	13 [1.6]	6 [1.5]	6 [1.0]
Pigmentation, Focal	1 [2.0]					
Vagina	(51)	(50)	(49)	(49)	(50)	(48)
Epithelium, Atrophy						
Hemorrhage					1 [2.0]	
Inflammation	12 [1.7]	22 [1.8]	18 [1.6]	17 [1.8]	17 [2.0]	15 [2.0]
Mucocyte, Hyperplasia	43 [2.5]	33 [2.2]	35 [2.4]	33 [2.4]	33 [2.4]	33 [2.5]
HEMATOPOIETIC SYSTEM						
Bone Marrow	(51)	(50)	(49)	(50)	(50)	(50)
Hyperplasia	1 [2.0]	1 [2.0]				1 [2.0]
Myeloid Cell, Hyperplasia		1 [2.0]			2 [2.0]	
Lymph Node	(16)	(14)	(6)	(10)	(15)	(12)
Axillary, Degeneration, Cystic	1 [2.0]					
Axillary, Hyperplasia, Lymphoid						1 [3.0]
Axillary, Infiltration Cellular, Plasma Cell	2 [3.0]					1 [4.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:28
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, Hyperplasia, Lymphoid				1 [2.0]		
Deep Cervical, Infiltration Cellular, Plasma Cell	1 [4.0]			1 [2.0]		
Degeneration, Cystic					1 [2.0]	
Hyperplasia, Lymphoid	1 [4.0]					
Infiltration Cellular, Plasma Cell	1 [3.0]				3 [3.3]	
Inguinal, Degeneration, Cystic						
Inguinal, Hyperplasia, Lymphoid	1 [4.0]					1 [3.0]
Inguinal, Infiltration Cellular, Plasma Cell	1 [3.0]	1 [4.0]			1 [4.0]	1 [3.0]
Lumbar, Degeneration, Cystic	12 [3.0]	11 [2.9]	3 [2.7]	5 [2.4]	7 [3.0]	9 [3.3]
Lumbar, Hemorrhage					1 [3.0]	
Lumbar, Hyperplasia, Lymphoid	5 [2.4]	10 [2.4]	3 [2.7]	3 [2.0]	4 [2.8]	7 [2.3]
Lumbar, Infiltration Cellular, Plasma Cell	10 [2.7]	12 [2.9]	5 [2.8]	5 [3.0]	7 [2.7]	10 [2.6]
Mediastinal, Hemorrhage			1 [2.0]	1 [3.0]		1 [3.0]
Mediastinal, Hyperplasia, Lymphoid	1 [2.0]					1 [2.0]
Mediastinal, Infiltration Cellular, Plasma Cell						
Mediastinal, Pigmentation	1 [2.0]			1 [3.0]		
Mediastinal, Sinus, Dilatation						1 [3.0]
Pancreatic, Hemorrhage				1 [2.0]		
Pancreatic, Hyperplasia, Lymphoid					1 [2.0]	
Pancreatic, Pigmentation	1 [2.0]			1 [2.0]		
Popliteal, Degeneration, Cystic	1 [2.0]		1 [3.0]	1 [3.0]		
Popliteal, Hyperplasia, Lymphoid	2 [2.0]		2 [2.0]			
Popliteal, Infiltration Cellular, Plasma Cell	2 [3.0]	1 [4.0]	2 [3.5]	1 [4.0]		
Renal, Degeneration, Cystic	1 [2.0]	1 [4.0]				
Renal, Hemorrhage						
Renal, Hyperplasia, Lymphoid		1 [2.0]			1 [3.0]	
Renal, Infiltration Cellular, Plasma Cell	1 [4.0]	1 [2.0]				
Thoracic, Infiltration Cellular, Plasma Cell	1 [2.0]					
Lymph Node, Mandibular	(51)	(50)	(49)	(50)	(50)	(49)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:28
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
Degeneration, Cystic	16 [2.1]	9 [2.2]	8 [2.0]	8 [2.4]	8 [1.9]	6 [2.0]
Hemorrhage	1 [2.0]					
Hyperplasia, Lymphoid	4 [2.0]	14 [2.1]	11 [2.0]	5 [2.2]	10 [2.1]	11 [2.1]
Infiltration Cellular, Plasma Cell	43 [2.3]	40 [2.6]	43 [2.3]	39 [2.3]	40 [2.3]	41 [2.3]
Inflammation, Suppurative				1 [2.0]	1 [2.0]	
Lymph Node, Mesenteric	(51)	(50)	(47)	(50)	(50)	(50)
Degeneration, Cystic	1 [2.0]		1 [2.0]	1 [2.0]	1 [2.0]	
Depletion Lymphoid	1 [2.0]	1 [2.0]		1 [3.0]	1 [3.0]	
Hemorrhage		1 [2.0]		2 [2.0]	1 [2.0]	1 [2.0]
Hyperplasia, Lymphoid	5 [2.0]	3 [2.3]	1 [2.0]	2 [2.0]	3 [2.0]	4 [2.0]
Infiltration Cellular, Plasma Cell	5 [2.0]	3 [2.3]	1 [3.0]	1 [2.0]	1 [2.0]	1 [2.0]
Inflammation, Chronic						
Pigmentation	2 [2.0]	1 [2.0]				
Sinus, Dilatation				1 [4.0]		
Spleen	(51)	(50)	(49)	(50)	(50)	(50)
Hematopoietic Cell Proliferation	15 [1.9]	22 [1.9]	10 [2.1]	6 [2.0]	13 [1.8]	17 [1.8]
Hyperplasia, Histiocytic, Focal						
Hyperplasia, Lymphoid						1 [2.0]
Hyperplasia, Stromal		1 [4.0]				
Lymphocyte, Atrophy		1 [2.0]				
Pigmentation	33 [1.9]	31 [2.0]	34 [2.1]	43 [2.2]	28 [1.8]	25 [1.9]
Red Pulp, Atrophy	1 [2.0]					
Thymus	(51)	(44)	(45)	(48)	(44)	(46)
Atrophy						
Cyst	17	18	21	17	13	22
Hemorrhage				1 [3.0]	1 [3.0]	
Hyperplasia, Lymphoid					1 [2.0]	
Inflammation, Chronic		1 [3.0]			1 [2.0]	

INTEGUMENTARY SYSTEM

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:28
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)
Alveolus, Hyperplasia	42 [2.1]	38 [2.4]	42 [2.2]	40 [2.2]	36 [2.3]	43 [2.3]
Atypical Focus	19 [1.5]	23 [1.8]	21 [1.3]	23 [1.6]	13 [2.0]	19 [1.7]
Duct, Dilatation	3 [2.0]	5 [2.8]		4 [2.8]		1 [2.0]
Duct, Inflammation						
Fibrosis						
Galactocoele	2	2	4	6	3	4
Inflammation						
Lactation	26 [2.0]	32 [2.1]	31 [1.9]	30 [2.0]	29 [1.9]	29 [1.8]
Lobules, Hyperplasia			1 [2.0]			
Skin	(51)	(50)	(49)	(50)	(50)	(50)
Abscess	1 [3.0]					
Cyst Epithelial Inclusion					1	
Epidermis, Necrosis						
Hyperkeratosis					1 [2.0]	
Inflammation	23 [3.6]	16 [3.4]	9 [3.9]	7 [3.1]	23 [3.6]	22 [3.6]
MUSCULOSKELETAL SYSTEM						
Bone	(0)	(0)	(0)	(0)	(0)	(0)
Cartilage, Sternum, Degeneration						
Bone, Femur	(51)	(50)	(49)	(50)	(50)	(50)
Fibrous Osteodystrophy			1 [3.0]			
Hyperplasia						
Osteopetrosis						1 [2.0]
Skeletal Muscle	(1)	(0)	(1)	(1)	(0)	(4)
Head, Hyalinization, Focal			1 [2.0]			
Inflammation, Chronic Active						
NERVOUS SYSTEM						
Brain, Brain Stem	(51)	(50)	(49)	(50)	(50)	(50)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
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
Compression	26 [2.4]	26 [2.7]	23 [2.6]	26 [2.5]	23 [2.7]	18 [2.8]
Hemorrhage		1 [2.0]	1 [2.0]	1 [1.0]	2 [1.5]	1 [2.0]
Hydrocephalus			1 [2.0]			
Brain, Cerebellum	(51)	(50)	(49)	(50)	(50)	(50)
Hemorrhage					1 [1.0]	
Hydrocephalus	2 [1.5]			2 [1.5]	3 [1.7]	
Brain, Cerebrum	(51)	(50)	(49)	(50)	(50)	(50)
Hemorrhage					1 [2.0]	
Hydrocephalus	2 [2.0]	2 [2.0]	6 [1.8]	5 [1.8]	3 [2.0]	2 [2.0]
Peripheral Nerve	(1)	(0)	(0)	(0)	(0)	(2)
Spinal Cord	(0)	(0)	(0)	(0)	(0)	(0)
Necrosis						
RESPIRATORY SYSTEM						
Lung	(51)	(50)	(49)	(50)	(50)	(50)
Alveolar Epith, Hyperplasia	1 [2.0]	1 [1.0]	2 [1.5]	1 [2.0]	1 [1.0]	1 [1.0]
Artery, Mineralization		1 [1.0]		3 [1.7]	3 [1.3]	1 [2.0]
Autolysis					1 [2.0]	
Edema		1 [1.0]				
Hemorrhage	1 [3.0]			2 [2.0]	1 [1.0]	
Infiltration Cellular, Histiocyte	11 [1.5]	10 [1.9]	10 [1.6]	16 [1.8]	7 [1.9]	4 [1.5]
Infiltration Cellular, Lymphocyte			1 [1.0]	1 [1.0]		
Inflammation	3 [1.3]	1 [2.0]	4 [1.8]	3 [2.0]	3 [1.3]	2 [2.0]
Mineralization						
Peribronchial, Inflammation, Chronic		1 [3.0]	1 [1.0]		1 [3.0]	
Perivascular, Inflammation		1 [2.0]	3 [1.0]	1 [1.0]	1 [2.0]	
Nose	(51)	(50)	(49)	(50)	(50)	(50)
Fibrous Osteodystrophy			1 [3.0]			
Foreign Body		1		1		1
Goblet Cell, Hyperplasia	1 [3.0]	2 [1.5]	2 [2.0]		1 [2.0]	1 [3.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:28
 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
Hemorrhage		1 [4.0]				
Inflammation	4 [1.8]	5 [2.0]	5 [1.8]	2 [2.5]	9 [2.1]	4 [1.8]
Nasolacrim Dct, Inflammation	29 [1.8]	29 [1.8]	31 [1.7]	30 [1.7]	25 [1.8]	29 [1.8]
Nasolacrim Dct, Keratin Cyst						
Olfactory Epi, Hyaline Droplet	4 [1.8]	5 [1.2]	1 [1.0]	6 [1.7]		3 [1.3]
Osteopetrosis						1 [2.0]
Respirat Epith, Hyaline Droplet					1 [2.0]	
Respirat Epith, Hyperplasia	1 [2.0]				1 [1.0]	
Trachea	(51)	(50)	(49)	(50)	(50)	(50)
Inflammation	2 [1.5]		3 [1.0]	3 [1.0]	1 [1.0]	1 [1.0]
SPECIAL SENSES SYSTEM						
Ear	(0)	(1)	(0)	(0)	(0)	(0)
Eye	(51)	(49)	(48)	(49)	(50)	(50)
Bilateral, Cataract				1	2	
Bilateral, Retina, Degeneration	2 [2.0]	5 [2.0]	1 [2.0]	4 [2.0]	1 [2.0]	6 [2.3]
Cataract		1	1	1	2	2
Cornea, Inflammation	1 [2.0]					
Inflammation						
Phthisis Bulbi						
Retina, Autolysis					2 [4.0]	
Retina, Degeneration	3 [2.0]	1 [2.0]	5 [1.8]		2 [1.5]	3 [2.3]
Harderian Gland	(51)	(49)	(49)	(50)	(50)	(50)
Atrophy, Focal	2 [1.5]					
Epithelium, Degeneration					1 [1.0]	
Hyperplasia	3 [1.3]	2 [2.0]	4 [1.5]	5 [1.0]	2 [1.5]	1 [1.0]
Infiltration Cellular, Lymphocyte	3 [1.7]	2 [1.5]	2 [1.0]	1 [1.0]	2 [1.5]	1 [2.0]
Inflammation	7 [1.1]	10 [1.3]	10 [1.1]	4 [1.5]	7 [1.1]	9 [1.2]
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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:28
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
URINARY SYSTEM						
Kidney	(51)	(50)	(49)	(50)	(50)	(50)
Bilateral, Hydronephrosis						1 [3.0]
Cyst	15	16	8	7	11	16
Degeneration, Muroid			1 [1.0]	1 [2.0]	1 [2.0]	1 [1.0]
Epithelium, Pelvis, Hyperplasia	1 [1.0]					1 [2.0]
Hemorrhage	1 [3.0]			1 [2.0]		
Hydronephrosis			1 [3.0]	1 [2.0]		1 [3.0]
Infiltration Cellular, Lymphocyte				1 [1.0]		
Inflammation	1 [2.0]	1 [3.0]			1 [3.0]	
Mineralization	31 [1.8]	33 [2.0]	27 [1.7]	34 [1.7]	30 [2.1]	36 [1.7]
Nephropathy	27 [1.2]	21 [1.4]	18 [1.3]	17 [1.1]	19 [1.3]	19 [1.1]
Polycystic Kidney			1 [4.0]	1 [2.0]		
Renal Tubule, Accumulation, Hyaline Droplet						1 [2.0]
Renal Tubule, Hyperplasia, Focal						
Urinary Bladder	(51)	(49)	(49)	(48)	(48)	(50)
Dilatation				1 [3.0]		
Hemorrhage				1 [3.0]		
Infiltration Cellular, Lymphocyte	2 [1.5]					
Inflammation						1 [2.0]

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:29
 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
Disposition Summary					
Animals Initially In Study	50	52	50	50	50
Early Deaths					
Moribund Sacrifice	22	7	6	4	9
Natural Death	6	1	1	2	2
Survivors					
Moribund Sacrifice		17	13	20	14
Natural Death			1	3	1
Terminal Sacrifice	22	27	29	21	24
Animals Examined Microscopically	50	52	50	50	50
ALIMENTARY SYSTEM					
Esophagus	(50)	(52)	(49)	(50)	(50)
Hemorrhage					
Inflammation					1 [4.0]
Necrosis					
Intestine Large, Cecum	(50)	(51)	(49)	(49)	(50)
Dilatation				1 [2.0]	
Erosion					
Inflammation, Chronic				1 [3.0]	
Intestine Large, Colon	(50)	(52)	(50)	(50)	(50)
Developmental Malformation					
Dilatation				1 [3.0]	
Inflammation					
Lymphoid Tiss, Inflammation					
Mineralization					
Muscularis, Inflammation, Chronic					
Intestine Large, Rectum	(50)	(51)	(49)	(50)	(50)
Inflammation, Chronic				1 [3.0]	

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:29
 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
Intestine Small, Duodenum	(50)	(52)	(49)	(50)	(50)
Autolysis					
Dilatation					
Intestine Small, Ileum	(49)	(52)	(49)	(49)	(50)
Autolysis					
Lymphoid Tiss, Inflammation, Chronic Active				1 [3.0]	
Intestine Small, Jejunum	(50)	(51)	(49)	(48)	(50)
Autolysis					
Inflammation, Chronic				1 [3.0]	
Liver	(50)	(52)	(50)	(50)	(50)
Angiectasis	3 [2.0]	8 [2.0]	5 [1.0]	2 [2.0]	5 [2.0]
Basophilic Focus	6	1	3		2
Bile Duct, Hyperplasia	8 [1.4]	12 [1.6]	16 [1.4]	14 [1.6]	6 [1.5]
Capsule, Hemorrhage, Focal					
Caudate Lobe, Developmental Malformation	1				
Centrilobular, Necrosis			1 [3.0]		
Cyst			1		
Cyst Multilocular	1	2		1	1
Degeneration, Cystic	1 [2.0]		3 [2.0]	1 [3.0]	1 [2.0]
Eosinophilic Focus	3	2	3	2	2
Eosinophilic Focus, Multiple	1				
Hematopoietic Cell Proliferation	3 [1.0]	1 [2.0]	3 [1.0]	2 [1.0]	4 [2.0]
Hepatocyte, Periportal, Hypertrophy					1 [2.0]
Hepatodiaphragmatic Nodule	1	4	4	1	1
Infiltration Cellular, Lymphocyte	2 [1.0]	2 [1.0]		1 [1.0]	
Inflammation, Chronic Active	4 [1.0]	10 [1.2]	5 [1.0]	5 [1.0]	4 [1.3]
Left Lat Lobe, Developmental Malformation	1		1		2
Median Lobe, Developmental Malformation			1		

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:29
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
Mixed Cell Focus	1				
Necrosis		1 [1.0]	3 [2.0]		5 [1.8]
Oval Cell, Hyperplasia					
Periportal, Inflammation, Chronic	2 [1.0]	3 [1.0]	3 [1.3]	6 [1.3]	5 [1.6]
Right Lat Lobe, Developmental Malformation					
Tension Lipidosis		2 [2.5]	3 [2.0]	1 [3.0]	
Vacuolization Cytoplasmic	13 [2.0]	16 [2.2]	11 [2.5]	10 [2.1]	12 [2.3]
Mesentery	(0)	(3)	(3)	(4)	(4)
Cyst					
Fat, Necrosis		1 [2.0]	2 [3.0]	3 [3.0]	3 [2.7]
Oral Mucosa	(4)	(2)	(4)	(7)	(2)
Abscess				1 [4.0]	
Gingival, Inflammation			1 [3.0]	1 [3.0]	
Keratin Cyst	3		2	1	1
Pancreas	(50)	(52)	(49)	(50)	(50)
Accessory Spleen					1
Acinar Cell, Degeneration	23 [1.9]	23 [2.1]	33 [1.7]	21 [1.9]	21 [1.7]
Acinar Cell, Hyperplasia					
Artery, Inflammation, Chronic					
Artery, Mineralization					
Inflammation, Chronic	2 [1.0]	1 [1.0]	4 [1.5]	2 [2.5]	1 [1.0]
Lipomatosis	1 [2.0]		1 [3.0]	1 [1.0]	
Salivary Glands	(50)	(52)	(50)	(50)	(50)
Artery, Mineralization					
Infiltration Cellular, Lymphocyte					1 [1.0]
Inflammation, Chronic	1 [3.0]			1 [3.0]	
Parotid Gl, Degeneration		1 [4.0]			
Stomach, Forestomach	(50)	(52)	(49)	(50)	(50)
Edema	1 [2.0]	2 [2.5]		2 [3.5]	

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:29
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
Hyperplasia		2 [2.0]		1 [3.0]	1 [3.0]
Inflammation	1 [3.0]	3 [2.0]		2 [3.0]	
Keratin Cyst	1	1		1	
Ulcer					2 [2.5]
Stomach, Glandular	(50)	(52)	(49)	(50)	(50)
Edema					1 [2.0]
Glands, Dilatation					
Infiltration Cellular, Lymphocyte				1 [3.0]	
Inflammation					
Mineralization					
Tongue	(0)	(0)	(1)	(0)	(0)
Tooth	(0)	(0)	(0)	(0)	(0)
Dysplasia					
CARDIOVASCULAR SYSTEM					
Blood Vessel	(50)	(52)	(50)	(50)	(50)
Mineralization					
Heart	(50)	(52)	(50)	(50)	(50)
Artery, Mineralization					
Cardiomyopathy	26 [1.3]	33 [1.4]	28 [1.3]	24 [1.3]	21 [1.1]
Endocardium, Hyperplasia	1 [2.0]				
Myocardium, Necrosis					
ENDOCRINE SYSTEM					
Adrenal Cortex	(50)	(52)	(50)	(50)	(50)
Accessory Adrenal Cortical Nodule					1
Angiectasis	1 [1.0]		1 [3.0]	3 [1.7]	2 [2.0]
Atrophy	1 [2.0]	1 [2.0]		1 [2.0]	
Cyst					
Degeneration, Cystic	42 [2.2]	48 [2.6]	42 [2.4]	38 [2.3]	41 [2.3]

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:29
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
Hematopoietic Cell Proliferation					2 [2.0]
Hyperplasia	1 [2.0]				
Hypertrophy	5 [1.8]	3 [2.0]	9 [2.0]	4 [1.5]	7 [1.9]
Infarct			1 [2.0]		1 [2.0]
Metaplasia, Osseous					
Vacuolization Cytoplasmic					
Adrenal Medulla	(49)	(52)	(50)	(50)	(50)
Atrophy			1 [3.0]		
Hyperplasia	2 [1.5]				
Islets, Pancreatic	(50)	(52)	(49)	(50)	(50)
Hyperplasia			1 [2.0]		1 [3.0]
Parathyroid Gland	(46)	(48)	(45)	(47)	(44)
Hyperplasia			1 [2.0]		1 [2.0]
Inflammation				1 [2.0]	
Thrombosis			1 [3.0]		
Pituitary Gland	(49)	(52)	(50)	(50)	(50)
Angiectasis	1 [1.0]	2 [2.5]	2 [2.0]		1 [1.0]
Cyst					
Degeneration, Cystic		1 [1.0]			
Hypertrophy, Focal		1 [2.0]			
Necrosis		1 [2.0]			
Pars Distalis, Cyst	2	2	1		1
Pars Distalis, Hyperplasia	1 [2.0]	6 [1.8]	3 [2.3]	4 [2.5]	5 [2.8]
Pars Intermed, Cyst	1		1		
Pigmentation					
Thyroid Gland	(50)	(52)	(49)	(50)	(50)
C Cell, Hyperplasia	4 [3.0]	3 [2.0]	3 [2.3]	3 [1.7]	1 [2.0]
Cyst				1	
Follicle, Cyst					

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:29
 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
Follicular Cel, Hyperplasia					1 [2.0]
Infiltration Cellular, Lymphocyte		1 [2.0]			1 [2.0]
Inflammation, Chronic	1 [2.0]			1 [1.0]	
Ultimobranchial Cyst	2 [3.0]	2 [2.5]	5 [2.4]	3 [2.7]	2 [3.0]
GENERAL BODY SYSTEM					
Tissue NOS	(0)	(0)	(0)	(1)	(1)
GENITAL SYSTEM					
Clitoral Gland	(49)	(50)	(50)	(49)	(48)
Atrophy	2 [2.5]	6 [2.7]	5 [2.2]	6 [2.5]	6 [2.2]
Duct, Dilatation	9 [2.3]	9 [2.2]	13 [2.1]	7 [2.6]	9 [2.3]
Duct, Hyperplasia, Squamous	5 [2.4]		1 [2.0]	1 [2.0]	
Duct, Inflammation				1 [2.0]	
Hyperplasia	3 [2.0]			1 [1.0]	3 [2.0]
Infiltration Cellular, Lymphocyte					
Infiltration Cellular, Mast Cell			1 [3.0]		
Inflammation	34 [2.1]	26 [2.1]	26 [2.2]	24 [2.1]	20 [2.0]
Inflammation, Suppurative		1 [2.0]			
Keratin Cyst	2		1	1	1
Ovary	(50)	(51)	(50)	(50)	(50)
Angiectasis					
Atrophy	42 [2.9]	47 [2.7]	46 [2.8]	45 [2.9]	49 [2.9]
Corpus Luteum, Cyst	2	1	2	2	
Cyst	17	13	12	15	13
Granulosa Cell, Hyperplasia					
Hyperplasia, Sertoliform	28 [1.7]	22 [1.5]	20 [1.8]	26 [1.9]	27 [1.7]
Interstit Cell, Hyperplasia		4 [2.3]	3 [2.3]		
Rete Ovarii, Cyst		2 [2.5]		2 [2.0]	
Oviduct	(50)	(51)	(49)	(50)	(50)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:29
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
Pigmentation					
Uterus	(50)	(52)	(50)	(50)	(50)
Adenomyosis		1 [3.0]	1 [4.0]	1 [2.0]	
Atrophy			1 [2.0]	2 [2.5]	2 [2.0]
Cervix, Hyperplasia					
Cervix, Muscularis, Hypertrophy	1				
Dilatation		1 [2.0]	1 [3.0]		1 [2.0]
Endometrium, Degeneration					1 [2.0]
Endometrium, Hyperplasia	4 [1.8]	6 [2.2]	6 [2.0]	8 [2.3]	5 [2.2]
Endometrium, Hyperplasia, Cystic	22 [2.2]	15 [2.3]	9 [2.1]	9 [2.1]	18 [2.4]
Hemorrhage					
Hyperplasia, Atypical, Focal	9 [1.7]	6 [1.7]	16 [1.4]	15 [1.6]	21 [1.5]
Hypoplasia					
Inflammation	3 [2.7]	2 [2.0]		2 [1.5]	1 [1.0]
Metaplasia, Squamous	1 [1.0]	1 [2.0]	4 [1.5]	3 [1.7]	11 [1.7]
Pigmentation, Focal					1 [2.0]
Vagina	(50)	(51)	(50)	(50)	(50)
Epithelium, Atrophy				1 [2.0]	2 [3.0]
Hemorrhage	1 [2.0]		1 [3.0]		
Inflammation	18 [1.6]	14 [2.1]	16 [1.8]	20 [2.0]	12 [1.8]
Mucocyte, Hyperplasia	39 [2.3]	39 [2.1]	39 [2.3]	36 [2.3]	35 [2.5]
HEMATOPOIETIC SYSTEM					
Bone Marrow	(50)	(52)	(50)	(50)	(50)
Hyperplasia	1 [2.0]	1 [2.0]			2 [2.0]
Myeloid Cell, Hyperplasia	1 [3.0]			1 [2.0]	
Lymph Node	(13)	(10)	(17)	(10)	(5)
Axillary, Degeneration, Cystic					
Axillary, Hyperplasia, Lymphoid		1 [2.0]			
Axillary, Infiltration Cellular, Plasma Cell		2 [3.5]	1 [2.0]		

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

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:29
 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, Hyperplasia, Lymphoid					
Deep Cervical, Infiltration Cellular, Plasma Cell					
Degeneration, Cystic					
Hyperplasia, Lymphoid					
Infiltration Cellular, Plasma Cell					
Inguinal, Degeneration, Cystic	2 [2.0]				
Inguinal, Hyperplasia, Lymphoid	2 [2.5]				
Inguinal, Infiltration Cellular, Plasma Cell	2 [3.0]				
Lumbar, Degeneration, Cystic	5 [3.0]	8 [2.5]	14 [2.7]	7 [2.7]	4 [3.0]
Lumbar, Hemorrhage			1 [3.0]		1 [2.0]
Lumbar, Hyperplasia, Lymphoid	7 [2.3]	6 [2.3]	11 [2.5]	6 [2.5]	3 [2.3]
Lumbar, Infiltration Cellular, Plasma Cell	9 [2.8]	9 [2.9]	15 [2.9]	6 [3.2]	5 [2.4]
Mediastinal, Hemorrhage	1 [2.0]			1 [2.0]	
Mediastinal, Hyperplasia, Lymphoid					
Mediastinal, Infiltration Cellular, Plasma Cell	2 [2.5]				
Mediastinal, Pigmentation					
Mediastinal, Sinus, Dilatation					
Pancreatic, Hemorrhage					
Pancreatic, Hyperplasia, Lymphoid					
Pancreatic, Pigmentation					
Popliteal, Degeneration, Cystic		1 [3.0]	3 [2.0]	1 [3.0]	
Popliteal, Hyperplasia, Lymphoid		1 [2.0]	5 [2.2]	1 [2.0]	1 [2.0]
Popliteal, Infiltration Cellular, Plasma Cell	1 [2.0]	2 [3.0]	7 [3.4]	1 [4.0]	1 [3.0]
Renal, Degeneration, Cystic	3 [2.7]	1 [2.0]	2 [3.0]		
Renal, Hemorrhage				1 [2.0]	
Renal, Hyperplasia, Lymphoid	2 [2.0]	1 [2.0]	1 [3.0]		
Renal, Infiltration Cellular, Plasma Cell	4 [2.8]	1 [4.0]	2 [3.0]	1 [3.0]	
Thoracic, Infiltration Cellular, Plasma Cell					
Lymph Node, Mandibular	(50)	(51)	(50)	(50)	(50)

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

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:30
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
Degeneration, Cystic	12 [2.3]	6 [2.0]	9 [2.2]	8 [2.3]	7 [2.3]
Hemorrhage	1 [2.0]			1 [2.0]	
Hyperplasia, Lymphoid	5 [2.0]	12 [2.0]	9 [2.0]	9 [2.0]	8 [2.0]
Infiltration Cellular, Plasma Cell	41 [2.4]	42 [2.3]	38 [2.3]	40 [2.4]	37 [2.6]
Inflammation, Suppurative					
Lymph Node, Mesenteric	(50)	(51)	(49)	(50)	(49)
Degeneration, Cystic	5 [2.0]	1 [3.0]		1 [2.0]	1 [1.0]
Depletion Lymphoid	1 [2.0]				
Hemorrhage					
Hyperplasia, Lymphoid	7 [2.0]	5 [2.2]	2 [2.0]	5 [2.0]	1 [2.0]
Infiltration Cellular, Plasma Cell	5 [1.8]	2 [2.0]		3 [2.0]	2 [2.5]
Inflammation, Chronic		1 [3.0]			
Pigmentation				1 [2.0]	
Sinus, Dilatation					
Spleen	(50)	(52)	(50)	(50)	(50)
Hematopoietic Cell Proliferation	10 [1.6]	14 [1.8]	15 [1.9]	12 [1.9]	16 [1.9]
Hyperplasia, Histiocytic, Focal				1 [3.0]	
Hyperplasia, Lymphoid			2 [2.5]		
Hyperplasia, Stromal					
Lymphocyte, Atrophy					
Pigmentation	30 [1.8]	27 [1.7]	26 [1.8]	24 [1.7]	29 [2.0]
Red Pulp, Atrophy					
Thymus	(48)	(50)	(45)	(46)	(49)
Atrophy					1 [2.0]
Cyst	17	16	19	17	20
Hemorrhage					
Hyperplasia, Lymphoid					
Inflammation, Chronic					

INTEGUMENTARY SYSTEM

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:30
 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
Mammary Gland	(50)	(52)	(50)	(50)	(50)
Alveolus, Hyperplasia	45 [2.2]	35 [2.3]	36 [2.5]	40 [2.4]	39 [2.2]
Atypical Focus	18 [1.4]	12 [1.8]	21 [1.7]	22 [1.7]	18 [1.9]
Duct, Dilatation	4 [2.0]			3 [2.7]	3 [2.7]
Duct, Inflammation	1 [2.0]				
Fibrosis	1 [3.0]				
Galactocele	3	2	1	1	5
Inflammation				1 [2.0]	
Lactation	20 [2.0]	19 [1.6]	6 [1.8]	17 [2.1]	20 [1.9]
Lobules, Hyperplasia					
Skin	(50)	(52)	(50)	(50)	(50)
Abscess		1 [4.0]	1 [4.0]		
Cyst Epithelial Inclusion		1			1
Epidermis, Necrosis				1 [2.0]	
Hyperkeratosis					
Inflammation	29 [3.8]	15 [3.8]	21 [4.0]	8 [3.8]	12 [3.8]
MUSCULOSKELETAL SYSTEM					
Bone	(0)	(0)	(1)	(0)	(0)
Cartilage, Sternum, Degeneration			1 [3.0]		
Bone, Femur	(50)	(52)	(50)	(50)	(50)
Fibrous Osteodystrophy					
Hyperplasia				1 [2.0]	
Osteopetrosis					1 [3.0]
Skeletal Muscle	(1)	(3)	(4)	(0)	(1)
Head, Hyalinization, Focal			1 [3.0]		
Inflammation, Chronic Active		1 [2.0]			
NERVOUS SYSTEM					
Brain, Brain Stem	(50)	(52)	(50)	(50)	(50)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:30
 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
Compression	19 [2.4]	13 [2.4]	11 [2.2]	19 [2.5]	20 [2.6]
Hemorrhage			1 [2.0]	1 [2.0]	1 [3.0]
Hydrocephalus	1 [2.0]				
Brain, Cerebellum	(50)	(51)	(50)	(50)	(50)
Hemorrhage	1 [3.0]				
Hydrocephalus	2 [1.5]	1 [2.0]		4 [1.8]	3 [2.0]
Brain, Cerebrum	(50)	(52)	(50)	(50)	(50)
Hemorrhage					
Hydrocephalus	3 [2.0]	1 [2.0]		1 [2.0]	3 [2.0]
Peripheral Nerve	(0)	(0)	(1)	(0)	(1)
Spinal Cord	(0)	(0)	(1)	(0)	(1)
Necrosis					1 [3.0]
RESPIRATORY SYSTEM					
Lung	(50)	(52)	(50)	(50)	(50)
Alveolar Epith, Hyperplasia		1 [3.0]	4 [1.5]	1 [2.0]	1 [1.0]
Artery, Mineralization	1 [1.0]	1 [1.0]			
Autolysis					
Edema	1 [2.0]			3 [1.7]	
Hemorrhage	1 [2.0]	2 [2.0]			1 [1.0]
Infiltration Cellular, Histiocyte	8 [2.0]	10 [1.2]	14 [1.5]	11 [1.6]	7 [1.1]
Infiltration Cellular, Lymphocyte	1 [1.0]			1 [2.0]	
Inflammation	3 [1.7]	1 [2.0]	4 [1.0]	1 [1.0]	2 [1.5]
Mineralization			1 [2.0]		
Peribronchial, Inflammation, Chronic				1 [3.0]	
Perivascular, Inflammation				1 [1.0]	
Nose	(50)	(52)	(50)	(50)	(50)
Fibrous Osteodystrophy					
Foreign Body	1				
Goblet Cell, Hyperplasia		3 [2.0]	3 [1.0]	1 [2.0]	3 [2.0]

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)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 12:43:30
 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
Hemorrhage					
Inflammation	5 [2.2]	8 [1.8]	2 [2.0]	3 [2.3]	6 [2.0]
Nasolacrim Dct, Inflammation	33 [1.8]	26 [1.8]	34 [1.9]	26 [1.8]	26 [1.7]
Nasolacrim Dct, Keratin Cyst					1
Olfactory Epi, Hyaline Droplet	2 [1.5]	15 [1.8]	8 [1.9]	5 [2.0]	9 [2.0]
Osteopetrosis					1 [2.0]
Respirat Epith, Hyaline Droplet					
Respirat Epith, Hyperplasia		1 [2.0]	1 [3.0]		1 [2.0]
Trachea	(50)	(52)	(49)	(50)	(50)
Inflammation	6 [1.2]	2 [1.0]	2 [1.5]	2 [1.0]	3 [1.0]
SPECIAL SENSES SYSTEM					
Ear	(0)	(0)	(0)	(2)	(0)
Eye	(47)	(52)	(50)	(49)	(50)
Bilateral, Cataract			1		
Bilateral, Retina, Degeneration	3 [2.0]	3 [2.3]	2 [2.0]	3 [2.0]	2 [3.0]
Cataract			1	2	1
Cornea, Inflammation	2 [1.5]				
Inflammation		1 [3.0]		1 [4.0]	
Phthisis Bulbi				1	1
Retina, Autolysis					
Retina, Degeneration	2 [1.0]	2 [1.5]	2 [2.0]	1 [2.0]	3 [1.3]
Harderian Gland	(50)	(52)	(50)	(50)	(50)
Atrophy, Focal					
Epithelium, Degeneration					
Hyperplasia	4 [1.0]	3 [1.3]	4 [1.3]	5 [1.6]	
Infiltration Cellular, Lymphocyte	1 [1.0]	1 [1.0]	2 [1.0]	3 [1.0]	4 [1.0]
Inflammation	8 [1.0]	8 [1.1]	8 [1.3]	12 [1.6]	14 [1.1]
Zymbal's Gland	(1)	(0)	(0)	(1)	(0)

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

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
 AVERAGE SEVERITY GRADES[b]**
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 12:43:30
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
URINARY SYSTEM					
Kidney	(50)	(52)	(50)	(50)	(50)
Bilateral, Hydronephrosis					
Cyst	9	10	12	17	7
Degeneration, Muroid					
Epithelium, Pelvis, Hyperplasia			1 [2.0]		
Hemorrhage					
Hydronephrosis		1 [2.0]	1 [2.0]		1 [3.0]
Infiltration Cellular, Lymphocyte	1 [2.0]		2 [1.0]		
Inflammation		3 [1.7]	5 [1.6]	2 [1.5]	2 [2.5]
Mineralization	35 [1.9]	22 [1.6]	14 [1.2]	21 [1.9]	20 [1.5]
Nephropathy	20 [1.1]	26 [1.4]	23 [1.4]	19 [1.3]	22 [1.2]
Polycystic Kidney	1 [2.0]				
Renal Tubule, Accumulation, Hyaline Droplet				2 [4.0]	
Renal Tubule, Hyperplasia, Focal	1 [2.0]				
Urinary Bladder	(49)	(52)	(49)	(49)	(50)
Dilatation					
Hemorrhage					1 [2.0]
Infiltration Cellular, Lymphocyte					
Inflammation					1 [2.0]

** END OF REPORT **

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)