

Experiment Number: 99920-91
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: 11:12:08
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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 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat MALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 CONTROL	F1 2.0 PPB
Disposition Summary						
Animals Initially In Study	25	25	25	26	25	25
Early Deaths						
Natural Death	1			1		
Survivors						
Moribund Sacrifice						
Terminal Sacrifice	24	25	25	25	25	25
Animals Examined Microscopically	25	25	25	26	25	25
ALIMENTARY SYSTEM						
Esophagus	(1)	(0)	(0)	(1)	(0)	(0)
Intestine Small, Ileum	(0)	(0)	(0)	(0)	(0)	(0)
Hyperplasia, Lymphoid						
Liver	(24)	(1)	(2)	(25)	(25)	(1)
Basophilic Focus				1		
Bile Duct, Hyperplasia						
Cyst						
Developmental Malformation		1				
Erythrophagocytosis						
Hematopoietic Cell Proliferation						
Hepatocyte, Degeneration						
Hepatocyte, Necrosis						
Hepatocyte, Vacuolization Cytoplasmic						
Hepatodiaphragmatic Nodule	1		2			1
Infiltration Cellular, Lymphocyte	6 [1.0]			8 [1.0]	5 [1.0]	
Inflammation, Chronic Active	3 [1.0]			4 [1.0]	6 [1.0]	
Vacuolization Cytoplasmic						
Mesentery	(0)	(0)	(0)	(0)	(1)	(0)
Fat, Necrosis					1 [4.0]	

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

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

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CD Rat MALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 CONTROL	F1 2.0 PPB
Inflammation, Granulomatous						
Oral Mucosa	(0)	(0)	(0)	(0)	(0)	(0)
Abscess						
Pancreas	(1)	(0)	(0)	(0)	(0)	(0)
Acinar Cell, Degeneration						
Acinus, Degeneration	1 [1.0]					
Infiltration Cellular, Lymphocyte						
CARDIOVASCULAR SYSTEM						
Blood Vessel	(1)	(0)	(0)	(1)	(0)	(0)
Heart	(1)	(0)	(0)	(1)	(0)	(0)
Cardiomyopathy						
ENDOCRINE SYSTEM						
Adrenal Cortex	(24)	(0)	(0)	(26)	(25)	(0)
Accessory Adrenal Cortical Nodule						
Vacuolization Cytoplasmic	1 [1.0]				3 [1.0]	
Adrenal Medulla	(23)	(0)	(0)	(26)	(25)	(0)
Pituitary Gland	(24)	(0)	(0)	(25)	(24)	(0)
Pars Distalis, Cyst				2		
Pars Distalis, Cyst, Multiple						
Pars Distalis, Hypertrophy						
Thyroid Gland	(24)	(0)	(0)	(25)	(25)	(0)
Cyst, Squamous	4			3	2	
Cyst, Squamous, Multiple				1	1	
Ectopic Thymus						
Infiltration Cellular, Lymphocyte						
GENERAL BODY SYSTEM						
None						

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

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 Lab: NCTR

CD Rat MALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 CONTROL	F1 2.0 PPB
GENITAL SYSTEM						
Coagulating Gland	(24)	(25)	(25)	(24)	(25)	(24)
Bilateral, Developmental Malformation	3	1			2	
Developmental Malformation	7	7	8	8	4	3
Hypoplasia						
Epididymis	(25)	(25)	(25)	(26)	(25)	(25)
Atrophy	1 [4.0]					3 [3.0]
Epithelium, Degeneration						
Hypoplasia						
Hypospermia	1 [4.0]					3 [4.0]
Infiltration Cellular, Lymphocyte	2 [1.0]	3 [1.0]		1 [1.0]	2 [1.0]	2 [1.0]
Preputial Gland	(0)	(2)	(3)	(2)	(3)	(2)
Atrophy					2 [1.5]	1 [3.0]
Bilateral, Atrophy						
Duct, Dilatation		1 [2.0]	2 [1.5]	1 [2.0]		
Infiltration Cellular, Lymphocyte			1 [1.0]			1 [2.0]
Inflammation, Suppurative		2 [1.5]	2 [4.0]	1 [4.0]	1 [2.0]	1 [4.0]
Prostate, Dorsal/Lateral Lobe	(5)	(5)	(8)	(9)	(9)	(3)
Hypoplasia						
Infiltration Cellular, Lymphocyte	3 [1.3]	1 [2.0]	4 [1.0]	1 [1.0]	3 [1.3]	1 [1.0]
Inflammation, Suppurative	2 [1.5]	4 [1.5]	4 [1.5]	8 [1.8]	6 [1.7]	2 [2.0]
Prostate, Dorsal/lateral Lobe	(19)	(20)	(17)	(17)	(16)	(22)
Prostate, Ventral Lobe	(24)	(25)	(25)	(26)	(25)	(25)
Hypoplasia						
Infiltration Cellular, Lymphocyte	20 [1.5]	18 [1.6]	19 [1.5]	21 [1.6]	17 [1.7]	16 [1.3]
Inflammation, Suppurative					2 [1.0]	1 [2.0]
Rete Testes	(25)	(23)	(24)	(25)	(25)	(23)
Dilatation	1 [3.0]	1 [2.0]	1 [4.0]			4 [2.5]
Seminal Vesicle	(24)	(25)	(25)	(25)	(25)	(25)

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

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

CD Rat MALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 CONTROL	F1 2.0 PPB
Depletion Secretory Hypoplasia	3 [3.3]	2 [2.5]	1 [4.0]	2 [4.0]	2 [3.0]	
Testes Hypoplasia	(25)	(25)	(25)	(26)	(25)	(25)
Seminif Tub, Degeneration	6 [1.7]	2 [2.0]	6 [1.8]	1 [1.0]	2 [1.5]	5 [3.8]
HEMATOPOIETIC SYSTEM						
Bone Marrow	(24)	(0)	(0)	(25)	(25)	(0)
Erythroid Cell, Hyperplasia						
Myeloid Cell, Hyperplasia						
Spleen	(24)	(0)	(0)	(25)	(25)	(0)
Congestion						
Hematopoietic Cell Proliferation					1 [2.0]	
Hyperplasia, Lymphoid	1 [1.0]			1 [1.0]		
Pigmentation	2 [1.5]			7 [1.0]	1 [1.0]	
Thymus	(24)	(0)	(0)	(25)	(25)	(0)
Atrophy						
Congestion						
Hemorrhage						
INTEGUMENTARY SYSTEM						
Mammary Gland	(24)	(24)	(25)	(25)	(25)	(24)
Alveolus, Dilatation			1 [2.0]			
Alveolus, Hyperplasia	1 [1.0]	2 [2.0]	5 [2.2]	10 [1.8]	1 [3.0]	7 [1.6]
Duct, Hyperplasia	2 [1.0]	1 [1.0]	2 [1.0]	2 [1.0]		1 [2.0]
Skin	(1)	(1)	(0)	(1)	(0)	(0)
Epidermis, Hyperplasia		1 [2.0]				
Hyperkeratosis		1 [1.0]				
MUSCULOSKELETAL SYSTEM						
Bone	(25)	(0)	(0)	(26)	(25)	(0)

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CD Rat MALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 CONTROL	F1 2.0 PPB
NERVOUS SYSTEM						
Brain	(1)	(0)	(0)	(1)	(0)	(0)
Spinal Cord	(1)	(0)	(0)	(0)	(0)	(0)
RESPIRATORY SYSTEM						
Lung	(1)	(0)	(0)	(1)	(0)	(0)
Infiltration Cellular, Histiocyte Peribronchiolr, Infiltration Cellular, Lymphocyte						
Trachea	(0)	(0)	(0)	(1)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(1)	(0)	(0)	(0)	(0)	(0)
Autolysis	1 [4.0]					
URINARY SYSTEM						
Kidney	(24)	(4)	(0)	(25)	(25)	(2)
Bilateral, Pelvis, Dilatation Casts Protein Congestion					2 [2.0]	1 [2.0]
Cortex, Cyst	4	1		4	4	1
Cortex, Cyst, Multiple Developmental Malformation Epithelium, Pelvis, Hyperplasia						1
Hyaline Droplet	2 [1.0]			6 [1.2]	4 [1.3]	
Infiltration Cellular, Lymphocyte	17 [1.2]	2 [2.0]		19 [1.2]	18 [1.1]	1 [1.0]
Inflammation, Chronic					1 [2.0]	
Interstitial, Fibrosis	2 [1.0]	1 [2.0]		1 [2.0]	4 [1.3]	
Pelvis, Dilatation				1 [1.0]		
Renal Tubule, Degeneration	2 [1.0]	2 [1.5]		3 [1.0]		
Renal Tubule, Dilatation	6 [1.7]	1 [4.0]		9 [1.3]	9 [1.7]	

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CD Rat MALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 CONTROL	F1 2.0 PPB
Renal Tubule, Hyperplasia						
Renal Tubule, Mineralization	1 [1.0]			1 [1.0]		
Renal Tubule, Regeneration	10 [1.0]	2 [1.0]		12 [1.1]	9 [1.0]	
Urinary Bladder	(1)	(0)	(0)	(1)	(0)	(0)

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 Lab: NCTR

CD Rat MALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
Disposition Summary						
Animals Initially In Study	25	26	25	25	25	25
Early Deaths						
Natural Death						
Survivors						
Moribund Sacrifice		1				
Terminal Sacrifice	25	25	25	25	25	25
Animals Examined Microscopically	25	26	25	25	25	25
ALIMENTARY SYSTEM						
Esophagus	(0)	(1)	(0)	(0)	(0)	(0)
Intestine Small, Ileum	(0)	(0)	(0)	(1)	(0)	(0)
Hyperplasia, Lymphoid				1 [2.0]		
Liver	(1)	(26)	(25)	(1)	(1)	(25)
Basophilic Focus						
Bile Duct, Hyperplasia						
Cyst						
Developmental Malformation						
Erythrophagocytosis						1 [1.0]
Hematopoietic Cell Proliferation						1 [1.0]
Hepatocyte, Degeneration						
Hepatocyte, Necrosis						
Hepatocyte, Vacuolization Cytoplasmic						
Hepatodiaphragmatic Nodule	1	3		1	1	1
Infiltration Cellular, Lymphocyte			3 [1.0]			1 [1.0]
Inflammation, Chronic Active		10 [1.1]	10 [1.0]			12 [1.0]
Vacuolization Cytoplasmic		1 [1.0]				
Mesentery	(1)	(0)	(0)	(0)	(0)	(0)
Fat, Necrosis	1 [4.0]					

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CD Rat MALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
Inflammation, Granulomatous						
Oral Mucosa	(0)	(1)	(0)	(0)	(0)	(0)
Abscess		1 [4.0]				
Pancreas	(0)	(1)	(0)	(0)	(0)	(0)
Acinar Cell, Degeneration						
Acinus, Degeneration						
Infiltration Cellular, Lymphocyte						
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(1)	(0)	(0)	(0)	(0)
Heart	(0)	(1)	(0)	(0)	(0)	(0)
Cardiomyopathy		1 [1.0]				
ENDOCRINE SYSTEM						
Adrenal Cortex	(0)	(26)	(25)	(0)	(0)	(25)
Accessory Adrenal Cortical Nodule						
Vacuolization Cytoplasmic		1 [1.0]	1 [1.0]			
Adrenal Medulla	(0)	(26)	(24)	(0)	(0)	(25)
Pituitary Gland	(0)	(26)	(23)	(0)	(0)	(25)
Pars Distalis, Cyst		1				
Pars Distalis, Cyst, Multiple		2	1			
Pars Distalis, Hypertrophy						1 [2.0]
Thyroid Gland	(0)	(26)	(24)	(0)	(0)	(25)
Cyst, Squamous			4			3
Cyst, Squamous, Multiple		1				2
Ectopic Thymus			1			
Infiltration Cellular, Lymphocyte						
GENERAL BODY SYSTEM						
None						

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CD Rat MALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
GENITAL SYSTEM						
Coagulating Gland	(25)	(26)	(25)	(23)	(25)	(25)
Bilateral, Developmental Malformation		1				
Developmental Malformation	2	4	8	5	8	8
Hypoplasia						
Epididymis	(25)	(26)	(25)	(25)	(25)	(25)
Atrophy	1 [2.0]		2 [2.0]	2 [3.5]	1 [3.0]	1 [2.0]
Epithelium, Degeneration	1 [2.0]					
Hypoplasia						
Hypospermia	1 [4.0]	1 [4.0]	3 [4.0]	2 [4.0]	1 [4.0]	1 [4.0]
Infiltration Cellular, Lymphocyte	5 [1.0]		1 [1.0]	1 [1.0]		1 [1.0]
Preputial Gland	(3)	(1)	(0)	(2)	(0)	(0)
Atrophy	1 [2.0]					
Bilateral, Atrophy	1 [2.0]					
Duct, Dilatation				1 [3.0]		
Infiltration Cellular, Lymphocyte						
Inflammation, Suppurative				2 [4.0]		
Prostate, Dorsal/Lateral Lobe	(10)	(4)	(12)	(11)	(17)	(13)
Hypoplasia						
Infiltration Cellular, Lymphocyte	5 [1.0]		8 [1.4]	10 [1.4]	15 [1.5]	10 [1.7]
Inflammation, Suppurative	5 [2.0]	4 [1.3]	4 [1.3]	1 [2.0]	2 [1.5]	3 [1.0]
Prostate, Dorsal/lateral Lobe	(15)	(22)	(13)	(14)	(8)	(12)
Prostate, Ventral Lobe	(25)	(26)	(25)	(25)	(25)	(25)
Hypoplasia						
Infiltration Cellular, Lymphocyte	19 [1.4]	17 [1.7]	9 [1.2]	8 [1.5]	8 [1.3]	11 [1.4]
Inflammation, Suppurative				4 [1.0]	1 [1.0]	4 [1.3]
Rete Testes	(24)	(25)	(24)	(24)	(23)	(25)
Dilatation	2 [2.5]		2 [2.5]		1 [2.0]	1 [3.0]
Seminal Vesicle	(25)	(26)	(25)	(25)	(25)	(25)

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CD Rat MALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
Depletion Secretory Hypoplasia	1 [4.0]		1 [3.0]	1 [3.0]		1 [2.0]
Testes Hypoplasia	(25)	(26)	(25)	(25)	(25)	(25)
Seminif Tub, Degeneration	3 [3.3]	2 [2.5]	4 [3.3]	3 [3.0]	2 [2.5]	1 [4.0]
HEMATOPOIETIC SYSTEM						
Bone Marrow	(0)	(26)	(25)	(0)	(0)	(25)
Erythroid Cell, Hyperplasia						1 [2.0]
Myeloid Cell, Hyperplasia			2 [2.0]			
Spleen	(0)	(26)	(25)	(0)	(0)	(25)
Congestion						
Hematopoietic Cell Proliferation			1 [1.0]			1 [1.0]
Hyperplasia, Lymphoid		1 [1.0]				
Pigmentation		4 [1.0]	1 [1.0]			4 [1.5]
Thymus	(0)	(26)	(25)	(1)	(0)	(25)
Atrophy						
Congestion						
Hemorrhage			1 [3.0]	1 [2.0]		
INTEGUMENTARY SYSTEM						
Mammary Gland	(25)	(26)	(25)	(25)	(25)	(25)
Alveolus, Dilatation						
Alveolus, Hyperplasia	11 [1.8]	10 [2.6]	3 [1.7]	3 [1.7]	7 [1.9]	13 [3.0]
Duct, Hyperplasia	5 [1.6]	10 [2.0]		5 [1.2]	8 [1.8]	12 [1.8]
Skin	(0)	(1)	(0)	(0)	(0)	(0)
Epidermis, Hyperplasia						
Hyperkeratosis						
MUSCULOSKELETAL SYSTEM						
Bone	(0)	(26)	(25)	(0)	(0)	(25)

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CD Rat MALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
NERVOUS SYSTEM						
Brain	(0)	(1)	(0)	(0)	(0)	(0)
Spinal Cord	(0)	(1)	(0)	(0)	(0)	(0)
RESPIRATORY SYSTEM						
Lung	(0)	(1)	(0)	(0)	(0)	(0)
Infiltration Cellular, Histiocyte Peribronchiolr, Infiltration Cellular, Lymphocyte						
Trachea	(0)	(1)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
URINARY SYSTEM						
Kidney	(25)	(26)	(25)	(0)	(25)	(25)
Bilateral, Pelvis, Dilatation						
Casts Protein			1 [2.0]			
Congestion		2 [2.0]				
Cortex, Cyst	3	1	4		2	4
Cortex, Cyst, Multiple		1				
Developmental Malformation						
Epithelium, Pelvis, Hyperplasia						
Hyaline Droplet	1 [1.0]	5 [1.2]	7 [1.7]		1 [1.0]	8 [1.4]
Infiltration Cellular, Lymphocyte	12 [1.0]	17 [1.1]	21 [1.2]		7 [1.3]	21 [1.0]
Inflammation, Chronic	1 [1.0]	1 [1.0]	1 [2.0]		1 [1.0]	
Interstitial, Fibrosis		1 [2.0]				1 [1.0]
Pelvis, Dilatation					2 [2.0]	
Renal Tubule, Degeneration		1 [1.0]			1 [2.0]	1 [1.0]
Renal Tubule, Dilatation	6 [1.5]	11 [1.6]	5 [1.8]		2 [1.5]	8 [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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
Renal Tubule, Hyperplasia	1 [2.0]	1 [1.0]				
Renal Tubule, Mineralization		9 [1.3]	1 [1.0]			10 [1.2]
Renal Tubule, Regeneration	4 [1.0]	13 [1.1]	12 [1.3]		6 [1.3]	10 [1.1]
Urinary Bladder	(0)	(1)	(0)	(0)	(0)	(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: 99920-91
 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: 11:12:09
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat MALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
Disposition Summary						
Animals Initially In Study	25	25	25	25	25	25
Early Deaths						
Natural Death						
Survivors						
Moribund Sacrifice						
Terminal Sacrifice	25	25	25	25	25	25
Animals Examined Microscopically	25	25	25	25	25	25
ALIMENTARY SYSTEM						
Esophagus	(0)	(0)	(0)	(0)	(0)	(0)
Intestine Small, Ileum	(0)	(0)	(0)	(0)	(0)	(0)
Hyperplasia, Lymphoid						
Liver	(25)	(0)	(1)	(25)	(25)	(1)
Basophilic Focus						
Bile Duct, Hyperplasia						
Cyst					1	
Developmental Malformation						
Erythrophagocytosis						
Hematopoietic Cell Proliferation						
Hepatocyte, Degeneration						
Hepatocyte, Necrosis						
Hepatocyte, Vacuolization Cytoplasmic				1 [2.0]		
Hepatodiaphragmatic Nodule			1			
Infiltration Cellular, Lymphocyte	4 [1.0]			3 [1.0]	1 [1.0]	
Inflammation, Chronic Active	9 [1.0]			5 [1.0]	13 [1.0]	
Vacuolization Cytoplasmic						
Mesentery	(0)	(0)	(0)	(1)	(0)	(0)
Fat, Necrosis				1 [4.0]		

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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
Inflammation, Granulomatous				1 [3.0]		
Oral Mucosa	(0)	(0)	(0)	(0)	(0)	(0)
Abscess						
Pancreas	(0)	(0)	(0)	(0)	(0)	(0)
Acinar Cell, Degeneration						
Acinus, Degeneration						
Infiltration Cellular, Lymphocyte						
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(0)	(0)	(0)
Heart	(0)	(0)	(0)	(0)	(0)	(0)
Cardiomyopathy						
ENDOCRINE SYSTEM						
Adrenal Cortex	(25)	(0)	(0)	(25)	(25)	(0)
Accessory Adrenal Cortical Nodule					1	
Vacuolization Cytoplasmic	2 [2.0]			2 [1.5]	4 [1.3]	
Adrenal Medulla	(24)	(0)	(0)	(25)	(25)	(0)
Pituitary Gland	(25)	(0)	(0)	(25)	(25)	(0)
Pars Distalis, Cyst	1			1		
Pars Distalis, Cyst, Multiple						
Pars Distalis, Hypertrophy						
Thyroid Gland	(25)	(0)	(0)	(25)	(25)	(0)
Cyst, Squamous	4			4	6	
Cyst, Squamous, Multiple				1		
Ectopic Thymus						
Infiltration Cellular, Lymphocyte	1 [1.0]			1 [1.0]		
GENERAL BODY SYSTEM						
None						

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: 99920-91
 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: 11:12:09
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat MALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
GENITAL SYSTEM						
Coagulating Gland	(25)	(25)	(25)	(25)	(25)	(25)
Bilateral, Developmental Malformation		1	1	1	1	
Developmental Malformation	2	7	5	8	9	9
Hypoplasia						
Epididymis	(25)	(25)	(25)	(25)	(25)	(25)
Atrophy		3 [3.0]	1 [2.0]	1 [3.0]		
Epithelium, Degeneration						
Hypoplasia						
Hypospermia		3 [4.0]	1 [4.0]	1 [4.0]		
Infiltration Cellular, Lymphocyte	1 [1.0]	2 [1.0]	1 [1.0]			
Preputial Gland	(0)	(0)	(2)	(1)	(0)	(2)
Atrophy						
Bilateral, Atrophy						
Duct, Dilatation			1 [3.0]	1 [3.0]		2 [3.0]
Infiltration Cellular, Lymphocyte						
Inflammation, Suppurative			1 [4.0]	1 [4.0]		2 [4.0]
Prostate, Dorsal/Lateral Lobe	(9)	(12)	(8)	(9)	(6)	(7)
Hypoplasia						
Infiltration Cellular, Lymphocyte	2 [1.0]	3 [1.0]		1 [1.0]		
Inflammation, Suppurative	7 [1.1]	9 [1.1]	8 [1.8]	8 [1.9]	6 [1.3]	7 [1.1]
Prostate, Dorsal/lateral Lobe	(16)	(13)	(17)	(16)	(19)	(18)
Prostate, Ventral Lobe	(25)	(25)	(25)	(25)	(25)	(25)
Hypoplasia						
Infiltration Cellular, Lymphocyte	17 [1.3]	17 [1.3]	14 [1.2]	16 [1.9]	14 [1.4]	9 [1.3]
Inflammation, Suppurative	1 [2.0]			1 [2.0]	1 [1.0]	1 [2.0]
Rete Testes	(25)	(24)	(25)	(25)	(25)	(24)
Dilatation		3 [2.0]		2 [2.0]		
Seminal Vesicle	(25)	(25)	(25)	(25)	(25)	(25)

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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
Depletion Secretory Hypoplasia			1 [3.0]	1 [3.0]		
Testes Hypoplasia	(25)	(25)	(25)	(25)	(25)	(25)
Seminif Tub, Degeneration	2 [1.0]	5 [3.2]	2 [1.0]	1 [4.0]	1 [1.0]	3 [1.0]
HEMATOPOIETIC SYSTEM						
Bone Marrow Erythroid Cell, Hyperplasia	(25)	(0)	(0)	(25)	(25)	(0)
Myeloid Cell, Hyperplasia	1 [2.0]			2 [1.0]		
Spleen Congestion Hematopoietic Cell Proliferation	(25)	(0)	(0)	(25)	(25)	(0)
Hyperplasia, Lymphoid	1 [2.0]			2 [1.5]		
Pigmentation	1 [1.0]			3 [1.0]		
Thymus Atrophy	(24)	(0)	(0)	(25)	(25)	(0)
Congestion Hemorrhage	1 [2.0]					
INTEGUMENTARY SYSTEM						
Mammary Gland Alveolus, Dilatation	(25)	(25)	(24)	(24)	(25)	(25)
Alveolus, Hyperplasia	2 [1.5]	5 [1.8]	4 [2.0]	7 [2.0]	3 [1.0]	5 [2.2]
Duct, Hyperplasia	1 [2.0]	1 [2.0]	3 [1.0]	1 [2.0]	1 [1.0]	
Skin Epidermis, Hyperplasia	(0)	(0)	(0)	(0)	(0)	(0)
Hyperkeratosis						
MUSCULOSKELETAL SYSTEM						
Bone	(25)	(0)	(0)	(25)	(25)	(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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
NERVOUS SYSTEM						
Brain	(0)	(0)	(0)	(0)	(0)	(0)
Spinal Cord	(0)	(0)	(0)	(0)	(0)	(0)
RESPIRATORY SYSTEM						
Lung	(0)	(0)	(0)	(0)	(0)	(0)
Infiltration Cellular, Histiocyte Peribronchiolr, Infiltration Cellular, Lymphocyte						
Trachea	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
URINARY SYSTEM						
Kidney	(25)	(0)	(2)	(25)	(25)	(0)
Bilateral, Pelvis, Dilatation	1 [3.0]					
Casts Protein				1 [2.0]		
Congestion	2 [2.0]		2 [2.5]			
Cortex, Cyst					1	
Cortex, Cyst, Multiple						
Developmental Malformation						
Epithelium, Pelvis, Hyperplasia						
Hyaline Droplet	2 [1.0]			2 [1.5]		
Infiltration Cellular, Lymphocyte	21 [1.0]			19 [1.1]	14 [1.0]	
Inflammation, Chronic					1 [1.0]	
Interstitial, Fibrosis				2 [1.0]		
Pelvis, Dilatation						
Renal Tubule, Degeneration						
Renal Tubule, Dilatation	3 [1.7]			6 [2.2]	2 [1.0]	

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

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

Experiment Number: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
Renal Tubule, Hyperplasia						
Renal Tubule, Mineralization						
Renal Tubule, Regeneration	10 [1.0]			9 [1.2]	8 [1.0]	
Urinary Bladder	(0)	(0)	(0)	(0)	(0)	(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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/10PPB TO CTRL	F4/50PPB TO CTRL
Disposition Summary		
Animals Initially In Study	26	25
Early Deaths		
Natural Death		
Survivors		
Moribund Sacrifice	1	
Terminal Sacrifice	25	25
Animals Examined Microscopically	26	25

ALIMENTARY SYSTEM

Esophagus	(1)	(0)
Intestine Small, Ileum	(0)	(0)
Hyperplasia, Lymphoid		
Liver	(2)	(25)
Basophilic Focus		
Bile Duct, Hyperplasia	1 [3.0]	1 [1.0]
Cyst		
Developmental Malformation		
Erythrophagocytosis		
Hematopoietic Cell Proliferation		
Hepatocyte, Degeneration	1 [4.0]	
Hepatocyte, Necrosis	1 [3.0]	
Hepatocyte, Vacuolization Cytoplasmic		
Hepatodiaphragmatic Nodule	1	
Infiltration Cellular, Lymphocyte	1 [4.0]	1 [1.0]
Inflammation, Chronic Active		10 [1.1]
Vacuolization Cytoplasmic		1 [1.0]
Mesentery	(0)	(0)
Fat, Necrosis		

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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/10PPB TO CTRL	F4/50PPB TO CTRL
Inflammation, Granulomatous		
Oral Mucosa	(0)	(0)
Abscess		
Pancreas	(1)	(0)
Acinar Cell, Degeneration	1 [4.0]	
Acinus, Degeneration		
Infiltration Cellular, Lymphocyte	1 [4.0]	
CARDIOVASCULAR SYSTEM		
Blood Vessel	(1)	(0)
Heart	(1)	(0)
Cardiomyopathy		
ENDOCRINE SYSTEM		
Adrenal Cortex	(1)	(25)
Accessory Adrenal Cortical Nodule		
Vacuolization Cytoplasmic		2 [1.5]
Adrenal Medulla	(1)	(25)
Pituitary Gland	(2)	(25)
Pars Distalis, Cyst	1	2
Pars Distalis, Cyst, Multiple		
Pars Distalis, Hypertrophy		
Thyroid Gland	(0)	(25)
Cyst, Squamous		4
Cyst, Squamous, Multiple		
Ectopic Thymus		
Infiltration Cellular, Lymphocyte		
GENERAL BODY SYSTEM		
None		

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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/10PPB TO CTRL	F4/50PPB TO CTRL
GENITAL SYSTEM		
Coagulating Gland	(26)	(24)
Bilateral, Developmental Malformation		1
Developmental Malformation	6	10
Hypoplasia	1 [4.0]	
Epididymis	(26)	(25)
Atrophy		1 [2.0]
Epithelium, Degeneration		
Hypoplasia	1 [4.0]	
Hypospermia		1 [4.0]
Infiltration Cellular, Lymphocyte		
Preputial Gland	(1)	(0)
Atrophy		
Bilateral, Atrophy		
Duct, Dilatation		
Infiltration Cellular, Lymphocyte		
Inflammation, Suppurative	1 [3.0]	
Prostate, Dorsal/Lateral Lobe	(10)	(6)
Hypoplasia	1 [4.0]	
Infiltration Cellular, Lymphocyte		
Inflammation, Suppurative	9 [1.4]	6 [1.2]
Prostate, Dorsal/lateral Lobe	(16)	(19)
Prostate, Ventral Lobe	(26)	(25)
Hypoplasia	1 [4.0]	
Infiltration Cellular, Lymphocyte	13 [1.7]	16 [1.4]
Inflammation, Suppurative		
Rete Testes	(26)	(25)
Dilatation		1 [2.0]
Seminal Vesicle	(26)	(25)

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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/10PPB TO CTRL	F4/50PPB TO CTRL
Depletion Secretory Hypoplasia	1 [4.0]	
Testes Hypoplasia	(26)	(25)
Seminif Tub, Degeneration	1 [4.0]	1 [4.0]
HEMATOPOIETIC SYSTEM		
Bone Marrow Erythroid Cell, Hyperplasia	(1)	(25)
Myeloid Cell, Hyperplasia		
Spleen Congestion	(1)	(25)
Hematopoietic Cell Proliferation	1 [3.0]	
Hyperplasia, Lymphoid	1 [3.0]	1 [2.0]
Pigmentation		
Thymus Atrophy	(1)	(25)
Congestion	1 [4.0]	
Hemorrhage		
INTEGUMENTARY SYSTEM		
Mammary Gland Alveolus, Dilatation	(25)	(25)
Alveolus, Hyperplasia	5 [2.0]	7 [1.9]
Duct, Hyperplasia	2 [1.0]	
Skin Epidermis, Hyperplasia	(1)	(0)
Hyperkeratosis		
MUSCULOSKELETAL SYSTEM		
Bone	(1)	(25)

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: 99920-91
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: 11:12:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/10PPB TO CTRL	F4/50PPB TO CTRL
NERVOUS SYSTEM		
Brain	(1)	(0)
Spinal Cord	(1)	(0)
RESPIRATORY SYSTEM		
Lung	(1)	(0)
Infiltration Cellular, Histiocyte	1 [2.0]	
Peribronchiolr, Infiltration Cellular, Lymphocyte	1 [4.0]	
Trachea	(1)	(0)
SPECIAL SENSES SYSTEM		
Eye	(0)	(0)
Autolysis		
URINARY SYSTEM		
Kidney	(1)	(25)
Bilateral, Pelvis, Dilatation		
Casts Protein		
Congestion		
Cortex, Cyst		4
Cortex, Cyst, Multiple		
Developmental Malformation		
Epithelium, Pelvis, Hyperplasia		1 [2.0]
Hyaline Droplet		4 [1.0]
Infiltration Cellular, Lymphocyte	1 [4.0]	13 [1.2]
Inflammation, Chronic		
Interstitial, Fibrosis	1 [2.0]	2 [1.5]
Pelvis, Dilatation		
Renal Tubule, Degeneration		
Renal Tubule, Dilatation		5 [1.4]

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: 99920-91
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: 11:12:10
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/10PPB TO CTRL	F4/50PPB TO CTRL
Renal Tubule, Hyperplasia		
Renal Tubule, Mineralization		1 [1.0]
Renal Tubule, Regeneration		11 [1.0]
Urinary Bladder	(1)	(0)

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: 99920-91
 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: 11:12:10
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 Control	F1 2.0 PPB
Disposition Summary						
Animals Initially In Study	25	25	25	25	25	25
Early Deaths						
Survivors						
Natural Death						
Terminal Sacrifice	25	25	25	25	25	25
Animals Examined Microscopically	25	25	25	25	25	25
ALIMENTARY SYSTEM						
Esophagus	(0)	(0)	(0)	(0)	(0)	(0)
Intestine Small, Ileum	(0)	(0)	(0)	(0)	(0)	(0)
Peyers Patch, Hyperplasia, Lymphoid						
Intestine Small, Jejunum	(0)	(0)	(0)	(0)	(0)	(0)
Peyers Patch, Hyperplasia						
Liver	(25)	(2)	(2)	(25)	(25)	(0)
Basophilic Focus, Multiple						
Clear Cell Focus						
Developmental Malformation	3	1	2		1	
Fatty Change, Focal	1 [2.0]					
Hepatodiaphragmatic Nodule		1				
Infiltration Cellular, Mast Cell, Focal						
Inflammation, Chronic						
Inflammation, Chronic Active	4 [1.0]			3 [1.0]	5 [1.0]	
Proliferation Connective Tissue, Focal						
Pancreas	(0)	(0)	(0)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(0)	(0)	(0)
Heart	(0)	(0)	(0)	(0)	(0)	(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: 99920-91
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: 11:12:10
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 Control	F1 2.0 PPB
ENDOCRINE SYSTEM						
Adrenal Cortex	(25)	(0)	(0)	(25)	(25)	(0)
Accessory Adrenal Cortical Nodule	1					
Hypertrophy, Focal						
Unilateral, Accessory Adrenal Cortical Nodule				1		
Adrenal Medulla	(25)	(0)	(0)	(25)	(25)	(0)
Pituitary Gland	(25)	(0)	(0)	(25)	(25)	(0)
Cyst	1					
Thyroid Gland	(25)	(0)	(0)	(25)	(25)	(1)
Bilateral, Keratin Cyst						
Ectopic Thymus						1
Keratin Cyst						
Ultimobranchial Cyst					2	
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Clitoral Gland	(2)	(1)	(2)	(0)	(1)	(2)
Abscess						
Cyst						
Distended	2	1	2		1	2
Inflammation, Chronic						
Inflammation, Chronic Active	2 [3.0]	1 [4.0]			1 [2.0]	2 [3.0]
Ovary	(25)	(25)	(25)	(25)	(25)	(25)
Asynchrony						
Corpus Luteum, Cyst	1	1			1	
Corpus Luteum, Depletion				1 [3.0]		
Cyst		1	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: 99920-91
 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: 11:12:10
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 Control	F1 2.0 PPB
Diestrus	7	6	8	6	9	6
Estrus	8	8	6	11	4	2
Follicle, Cyst			1		1	
Follicle, Cyst, Multiple				1		
Hyperplasia, Sertoliform						
Metestrus	4	4	3	1	5	7
Proestrus	6	7	8	6	7	10
Rete Ovarii, Dilatation						
Oviduct	(24)	(25)	(25)	(25)	(25)	(25)
Mucosa, Hyperplasia		1 [2.0]				
Uterus	(25)	(25)	(25)	(25)	(25)	(25)
Cyst						
Diestrus	7	7	9	5	9	6
Endometrial Gl, Dilatation		1 [3.0]				
Endometrial Gl, Hyperplasia			1 [1.0]			
Estrus	7	7	6	12	4	3
Metestrus	4	4	3	1	5	6
Proestrus	7	7	7	7	7	10
Vagina	(25)	(25)	(25)	(25)	(24)	(25)
Diestrus	6	5	6	6	10	6
Epithelium, Hyperplasia				1 [2.0]		
Estrus	6	8	6	9	4	4
Metestrus	7	5	3	4	4	7
Mucocyte, Hyperplasia						
Proestrus	6	7	10	5	6	8
HEMATOPOIETIC SYSTEM						
Bone Marrow	(25)	(0)	(0)	(25)	(25)	(0)
Pigmentation						
Lymph Node	(0)	(0)	(0)	(0)	(0)	(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: 99920-91
 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: 11:12:10
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 Control	F1 2.0 PPB
Lymph Node, Mandibular	(0)	(0)	(0)	(0)	(0)	(0)
Spleen	(25)	(0)	(0)	(25)	(25)	(0)
Congestion						
Fibrosis, Focal	1 [1.0]					
Pigmentation	3 [1.0]			6 [1.5]	2 [1.0]	
Thymus	(25)	(0)	(0)	(25)	(25)	(0)
INTEGUMENTARY SYSTEM						
Mammary Gland	(25)	(25)	(25)	(25)	(25)	(25)
Alveolus, Hyperplasia	1 [1.0]	4 [1.3]	3 [1.0]	4 [1.0]	5 [1.2]	6 [1.2]
Lactation						
Lobules, Hyperplasia						
Skin	(2)	(3)	(1)	(0)	(0)	(0)
Hyperkeratosis, Focal		1 [3.0]				
Inflammation, Chronic, Focal	1 [3.0]					
MUSCULOSKELETAL SYSTEM						
Bone	(25)	(0)	(0)	(25)	(25)	(0)
NERVOUS SYSTEM						
Brain	(0)	(0)	(0)	(0)	(0)	(0)
RESPIRATORY SYSTEM						
Lung	(0)	(0)	(0)	(0)	(0)	(0)
Trachea	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(0)	(0)	(0)	(0)	(0)	(0)
Bilateral, Cataract						
Cornea, Edema						
URINARY SYSTEM						
Kidney	(25)	(25)	(25)	(25)	(25)	(25)

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: 99920-91
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: 11:12:10
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F0 CONTROL	F0 2.0 PPB	F0 10 PPB	F0 50 PPB	F1 Control	F1 2.0 PPB
Kidney	(25)	(25)	(25)	(25)	(25)	(25)
Arteriole, Nuclear Alteration				1 [3.0]		
Cortex, Cyst	3	3				3
Cyst						
Hydronephrosis						
Infarct	1	1	1			1
Inflammation, Chronic Active		1 [1.0]				
Nephropathy	2 [1.0]			3 [1.0]		
Nephropathy, Focal						
Pelvis, Dilatation					1 [3.0]	1 [4.0]
Renal Tubule, Degeneration, Focal		1 [4.0]				
Renal Tubule, Dilatation, Focal			2 [2.0]			
Renal Tubule, Mineralization	20 [1.8]	22 [1.6]	24 [1.2]	17 [1.5]	21 [1.9]	18 [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: 99920-91
 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: 11:12:10
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
Disposition Summary						
Animals Initially In Study	25	25	25	25	25	25
Early Deaths						
Survivors						
Natural Death						
Terminal Sacrifice	25	25	25	25	25	25
Animals Examined Microscopically	25	25	25	25	25	25
ALIMENTARY SYSTEM						
Esophagus	(0)	(0)	(0)	(0)	(0)	(0)
Intestine Small, Ileum	(0)	(0)	(1)	(0)	(0)	(0)
Peyers Patch, Hyperplasia, Lymphoid			1 [3.0]			
Intestine Small, Jejunum	(0)	(0)	(0)	(0)	(0)	(0)
Peyers Patch, Hyperplasia						
Liver	(0)	(25)	(25)	(0)	(3)	(25)
Basophilic Focus, Multiple		1				
Clear Cell Focus						1
Developmental Malformation		2	2		1	
Fatty Change, Focal						
Hepatodiaphragmatic Nodule						
Infiltration Cellular, Mast Cell, Focal			1 [2.0]			
Inflammation, Chronic					1 [2.0]	
Inflammation, Chronic Active		1 [1.0]				
Proliferation Connective Tissue, Focal			1 [2.0]		1 [2.0]	
Pancreas	(0)	(0)	(0)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(0)	(0)	(0)
Heart	(0)	(0)	(0)	(0)	(0)	(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: 99920-91
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: 11:12:10
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
ENDOCRINE SYSTEM						
Adrenal Cortex	(0)	(25)	(25)	(0)	(0)	(25)
Accessory Adrenal Cortical Nodule						
Hypertrophy, Focal		1 [1.0]				
Unilateral, Accessory Adrenal Cortical Nodule						
Adrenal Medulla	(0)	(25)	(25)	(0)	(0)	(25)
Pituitary Gland	(0)	(25)	(25)	(0)	(0)	(25)
Cyst						1
Thyroid Gland	(0)	(25)	(25)	(0)	(0)	(25)
Bilateral, Keratin Cyst						
Ectopic Thymus						
Keratin Cyst						
Ultimobranchial Cyst		1				1
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Clitoral Gland	(0)	(1)	(1)	(2)	(1)	(0)
Abscess				1		
Cyst		1				
Distended			1	1	1	
Inflammation, Chronic				1 [3.0]		
Inflammation, Chronic Active			1 [2.0]	1 [3.0]	1 [2.0]	
Ovary	(25)	(25)	(25)	(25)	(25)	(25)
Asynchrony	1					
Corpus Luteum, Cyst		1		1		
Corpus Luteum, Depletion						
Cyst	1	1	1		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: 99920-91
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: 11:12:10
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
Diestrus	6	11	12	14	13	8
Estrus	6	3	5	4	5	5
Follicle, Cyst						
Follicle, Cyst, Multiple						
Hyperplasia, Sertoliform		3 [1.3]				
Metestrus	6	3	2	4	2	5
Proestrus	6	8	6	3	5	7
Rete Ovarii, Dilatation		1 [2.0]				
Oviduct	(25)	(25)	(25)	(25)	(25)	(25)
Mucosa, Hyperplasia						
Uterus	(25)	(25)	(25)	(25)	(25)	(25)
Cyst	1					
Diestrus	7	11	10	12	11	8
Endometrial Gl, Dilatation						
Endometrial Gl, Hyperplasia						
Estrus	6	3	4	4	5	5
Metestrus	6	3	6	6	4	5
Proestrus	6	8	5	3	5	7
Vagina	(25)	(25)	(25)	(25)	(25)	(23)
Diestrus	5	11	11	12	10	7
Epithelium, Hyperplasia						
Estrus	6	6	6	4	5	7
Metestrus	8	3	3	6	5	4
Mucocyte, Hyperplasia				2 [2.0]		
Proestrus	6	5	5	3	5	5
HEMATOPOIETIC SYSTEM						
Bone Marrow	(0)	(25)	(25)	(0)	(0)	(25)
Pigmentation						
Lymph Node	(0)	(0)	(0)	(0)	(0)	(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: 99920-91
 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: 11:12:10
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
Lymph Node, Mandibular	(0)	(0)	(0)	(0)	(0)	(0)
Spleen	(0)	(25)	(25)	(0)	(0)	(25)
Congestion						
Fibrosis, Focal						
Pigmentation		2 [1.5]	1 [1.0]			1 [1.0]
Thymus	(0)	(25)	(25)	(0)	(0)	(25)
INTEGUMENTARY SYSTEM						
Mammary Gland	(25)	(25)	(25)	(25)	(25)	(25)
Alveolus, Hyperplasia	5 [1.2]	5 [1.4]	14 [1.8]	15 [1.5]	12 [1.5]	11 [1.5]
Lactation						
Lobules, Hyperplasia			7 [1.1]	10 [1.8]	13 [1.5]	13 [1.5]
Skin	(0)	(0)	(0)	(0)	(0)	(0)
Hyperkeratosis, Focal						
Inflammation, Chronic, Focal						
MUSCULOSKELETAL SYSTEM						
Bone	(0)	(25)	(25)	(0)	(0)	(25)
NERVOUS SYSTEM						
Brain	(0)	(0)	(0)	(0)	(0)	(0)
RESPIRATORY SYSTEM						
Lung	(0)	(0)	(0)	(0)	(0)	(0)
Trachea	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(1)	(1)	(0)	(0)	(0)	(0)
Bilateral, Cataract		1				
Cornea, Edema	1					
URINARY SYSTEM						
Kidney	(25)	(25)	(25)	(25)	(25)	(25)

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: 99920-91
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: 11:12:10
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F1 10 PPB	F1 50 PPB	F2 CONTROL	F2 2.0 PPB	F2 10 PPB	F2 50 PPB
Kidney	(25)	(25)	(25)	(25)	(25)	(25)
Arteriole, Nuclear Alteration						
Cortex, Cyst		6	3	1	3	2
Cyst						
Hydronephrosis						
Infarct					2	
Inflammation, Chronic Active				1 [1.0]		1 [1.0]
Nephropathy	1 [1.0]				1 [1.0]	
Nephropathy, Focal						
Pelvis, Dilatation						
Renal Tubule, Degeneration, Focal						
Renal Tubule, Dilatation, Focal						
Renal Tubule, Mineralization	21 [1.7]	17 [1.2]	18 [1.6]	23 [1.4]	20 [1.8]	15 [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: 99920-91
 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: 11:12:10
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
Disposition Summary						
Animals Initially In Study	25	25	25	25	25	25
Early Deaths						
Survivors						
Natural Death						
Terminal Sacrifice	25	25	25	25	25	25
Animals Examined Microscopically	25	25	25	25	25	25
ALIMENTARY SYSTEM						
Esophagus	(0)	(0)	(0)	(0)	(0)	(0)
Intestine Small, Ileum	(0)	(0)	(0)	(0)	(0)	(0)
Peyers Patch, Hyperplasia, Lymphoid						
Intestine Small, Jejunum	(0)	(1)	(0)	(0)	(0)	(0)
Peyers Patch, Hyperplasia		1 [1.0]				
Liver	(25)	(0)	(0)	(25)	(25)	(0)
Basophilic Focus, Multiple						
Clear Cell Focus						
Developmental Malformation	1				1	
Fatty Change, Focal						
Hepatodiaphragmatic Nodule						
Infiltration Cellular, Mast Cell, Focal						
Inflammation, Chronic						
Inflammation, Chronic Active				2 [1.0]		
Proliferation Connective Tissue, Focal						
Pancreas	(0)	(0)	(0)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(0)	(0)	(0)
Heart	(0)	(0)	(0)	(0)	(0)	(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: 99920-91
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: 11:12:10
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
ENDOCRINE SYSTEM						
Adrenal Cortex	(25)	(0)	(0)	(25)	(25)	(0)
Accessory Adrenal Cortical Nodule						
Hypertrophy, Focal						
Unilateral, Accessory Adrenal Cortical Nodule						
Adrenal Medulla	(25)	(0)	(0)	(25)	(25)	(0)
Pituitary Gland	(25)	(0)	(0)	(25)	(25)	(0)
Cyst	2					
Thyroid Gland	(25)	(0)	(0)	(25)	(25)	(0)
Bilateral, Keratin Cyst					1	
Ectopic Thymus						
Keratin Cyst				2	1	
Ultimobranchial Cyst						
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Clitoral Gland	(0)	(3)	(0)	(0)	(3)	(0)
Abscess						
Cyst						
Distended		1			3	
Inflammation, Chronic						
Inflammation, Chronic Active		3 [2.7]			3 [3.0]	
Ovary	(25)	(25)	(24)	(25)	(25)	(25)
Asynchrony						
Corpus Luteum, Cyst	1					
Corpus Luteum, Depletion						
Cyst	2				2	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: 99920-91
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: 11:12:10
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
Diestrus	10	9	3	4	6	7
Estrus	5	4	5	6	7	11
Follicle, Cyst					1	
Follicle, Cyst, Multiple						
Hyperplasia, Sertoliform			1 [1.0]			
Metestrus	6	5	7	4	4	3
Proestrus	4	7	9	11	8	4
Rete Ovarii, Dilatation						
Oviduct	(25)	(25)	(24)	(25)	(25)	(25)
Mucosa, Hyperplasia						
Uterus	(25)	(25)	(25)	(25)	(25)	(25)
Cyst						
Diestrus	8	9	4	3	5	6
Endometrial Gl, Dilatation						
Endometrial Gl, Hyperplasia						
Estrus	5	4	5	6	7	11
Metestrus	8	5	6	5	5	4
Proestrus	4	7	10	11	8	4
Vagina	(25)	(25)	(25)	(25)	(25)	(25)
Diestrus	10	8	3	4	5	6
Epithelium, Hyperplasia						
Estrus	4	4	7	5	8	7
Metestrus	8	6	7	5	5	8
Mucocyte, Hyperplasia		1 [1.0]				
Proestrus	3	7	8	11	7	4
HEMATOPOIETIC SYSTEM						
Bone Marrow	(25)	(0)	(0)	(25)	(25)	(0)
Pigmentation	1 [4.0]					
Lymph Node	(0)	(0)	(0)	(0)	(0)	(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: 99920-91
 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

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CD Rat FEMALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
Lymph Node, Mandibular	(0)	(0)	(0)	(0)	(0)	(0)
Spleen	(25)	(0)	(0)	(25)	(25)	(0)
Congestion	1 [3.0]					
Fibrosis, Focal						
Pigmentation	4 [1.3]			1 [2.0]		
Thymus	(25)	(0)	(0)	(25)	(25)	(0)
INTEGUMENTARY SYSTEM						
Mammary Gland	(25)	(25)	(25)	(25)	(25)	(25)
Alveolus, Hyperplasia	9 [1.7]	4 [1.8]	11 [1.6]	9 [1.3]	11 [1.7]	14 [1.4]
Lactation	2	1	1			
Lobules, Hyperplasia	7 [1.7]	4 [1.8]	6 [1.3]	8 [1.5]	4 [1.0]	10 [1.3]
Skin	(0)	(0)	(0)	(1)	(0)	(0)
Hyperkeratosis, Focal						
Inflammation, Chronic, Focal				1 [2.0]		
MUSCULOSKELETAL SYSTEM						
Bone	(25)	(0)	(0)	(25)	(25)	(0)
NERVOUS SYSTEM						
Brain	(0)	(0)	(0)	(0)	(0)	(0)
RESPIRATORY SYSTEM						
Lung	(0)	(0)	(0)	(0)	(0)	(0)
Trachea	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(0)	(0)	(0)	(0)	(0)	(0)
Bilateral, Cataract						
Cornea, Edema						
URINARY SYSTEM						
Kidney	(25)	(25)	(25)	(25)	(25)	(25)

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Lab: NCTR

CD Rat FEMALE	F3 CONTROL	F3/2PPB TO CTRL	F3/10PPB TO CTRL	F3/50PPB TO CTRL	F4 CONTROL	F4/2PPB TO CTRL
Kidney	(25)	(25)	(25)	(25)	(25)	(25)
Arteriole, Nuclear Alteration						
Cortex, Cyst	3	1	3	3	2	
Cyst						
Hydronephrosis			1 [1.0]			
Infarct			2			
Inflammation, Chronic Active						
Nephropathy						1 [1.0]
Nephropathy, Focal				1 [1.0]		
Pelvis, Dilatation						
Renal Tubule, Degeneration, Focal						
Renal Tubule, Dilatation, Focal						
Renal Tubule, Mineralization	19 [1.2]	19 [1.3]	18 [1.4]	14 [1.1]	24 [1.5]	19 [1.3]

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CD Rat FEMALE	F4/10PPB TO CTR	F4/50PPB TO CTRL
Disposition Summary		
Animals Initially In Study	26	25
Early Deaths		
Survivors		
Natural Death	1	
Terminal Sacrifice	25	25
Animals Examined Microscopically	26	25
ALIMENTARY SYSTEM		
Esophagus	(1)	(0)
Intestine Small, Ileum	(0)	(0)
Peyers Patch, Hyperplasia, Lymphoid		
Intestine Small, Jejunum	(0)	(0)
Peyers Patch, Hyperplasia		
Liver	(1)	(25)
Basophilic Focus, Multiple		
Clear Cell Focus		
Developmental Malformation		
Fatty Change, Focal		
Hepatodiaphragmatic Nodule		
Infiltration Cellular, Mast Cell, Focal		
Inflammation, Chronic		
Inflammation, Chronic Active		
Proliferation Connective Tissue, Focal		
Pancreas	(1)	(0)
CARDIOVASCULAR SYSTEM		
Blood Vessel	(1)	(0)
Heart	(1)	(0)

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CD Rat FEMALE	F4/10PPB TO CTR	F4/50PPB TO CTRL
ENDOCRINE SYSTEM		
Adrenal Cortex	(2)	(25)
Accessory Adrenal Cortical Nodule		
Hypertrophy, Focal		
Unilateral, Accessory Adrenal Cortical Nodule		
Adrenal Medulla	(2)	(25)
Pituitary Gland	(1)	(25)
Cyst		
Thyroid Gland	(1)	(25)
Bilateral, Keratin Cyst		
Ectopic Thymus		
Keratin Cyst		1
Ultimobranchial Cyst		
GENERAL BODY SYSTEM		
None		
GENITAL SYSTEM		
Clitoral Gland	(0)	(0)
Abscess		
Cyst		
Distended		
Inflammation, Chronic		
Inflammation, Chronic Active		
Ovary	(26)	(25)
Asynchrony		
Corpus Luteum, Cyst		1
Corpus Luteum, Depletion		
Cyst		

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CD Rat FEMALE	F4/10PPB TO CTR	F4/50PPB TO CTRL
Diestrus	9	8
Estrus	2	2
Follicle, Cyst		1
Follicle, Cyst, Multiple		
Hyperplasia, Sertoliform		
Metestrus	3	6
Proestrus	12	9
Rete Ovarii, Dilatation		
Oviduct	(26)	(25)
Mucosa, Hyperplasia		
Uterus	(26)	(25)
Cyst		
Diestrus	7	7
Endometrial Gl, Dilatation		
Endometrial Gl, Hyperplasia		
Estrus	2	2
Metestrus	5	7
Proestrus	12	9
Vagina	(26)	(25)
Diestrus	7	7
Epithelium, Hyperplasia		
Estrus	4	5
Metestrus	5	5
Mucocyte, Hyperplasia		
Proestrus	10	8
HEMATOPOIETIC SYSTEM		
Bone Marrow	(1)	(25)
Pigmentation		
Lymph Node	(1)	(0)

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Route: DOSED FEED
Species/Strain: Rat/CD

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Lab: NCTR

CD Rat FEMALE	F4/10PPB TO CTR	F4/50PPB TO CTRL
Lymph Node, Mandibular	(1)	(0)
Spleen	(2)	(25)
Congestion		
Fibrosis, Focal		
Pigmentation		
Thymus	(1)	(25)
INTEGUMENTARY SYSTEM		
Mammary Gland	(26)	(25)
Alveolus, Hyperplasia	7 [1.1]	9 [1.4]
Lactation		
Lobules, Hyperplasia	2 [1.5]	4 [1.3]
Skin	(1)	(0)
Hyperkeratosis, Focal		
Inflammation, Chronic, Focal		
MUSCULOSKELETAL SYSTEM		
Bone	(1)	(25)
NERVOUS SYSTEM		
Brain	(1)	(0)
RESPIRATORY SYSTEM		
Lung	(1)	(0)
Trachea	(1)	(0)
SPECIAL SENSES SYSTEM		
Eye	(0)	(0)
Bilateral, Cataract		
Cornea, Edema		
URINARY SYSTEM		
Kidney	(26)	(25)

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Lab: NCTR

CD Rat FEMALE	F4/10PPB TO CTR	F4/50PPB TO CTRL
Kidney	(26)	(25)
Arteriole, Nuclear Alteration		
Cortex, Cyst		2
Cyst	1	
Hydronephrosis		
Infarct		
Inflammation, Chronic Active		
Nephropathy	1 [1.0]	2 [1.0]
Nephropathy, Focal		
Pelvis, Dilatation		
Renal Tubule, Degeneration, Focal		
Renal Tubule, Dilatation, Focal		
Renal Tubule, Mineralization	19 [1.7]	19 [1.3]

**** END OF REPORT ****

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