

Experiment Number: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:17
First Dose M/F: NA / NA
Lab: NCTR

C Number:	MG96005
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	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Disposition Summary						
Animals Initially In Study	25	25	25	25	26	25
Early Deaths						
Survivors						
Natural Death	1					
Terminal Sacrifice	24	25	25	25	26	25
Animals Examined Microscopically	25	25	25	25	26	25
ALIMENTARY SYSTEM						
Liver	(24)	(6)	(0)	(25)	(26)	(0)
Fibrosis	1 [2.0]	1 [3.0]				
Hemorrhage				1 [1.0]	1 [1.0]	
Hepatodiaphragmatic Nodule	3	1		2	1	
Inflammation, Chronic	18 [1.1]			19 [1.0]	22 [1.0]	
Malformation		3		2		
Necrosis	2 [1.0]			4 [1.3]	5 [1.2]	
Perivascular, Fibrosis		1 [2.0]				
Vacuolization Cytoplasmic	7 [1.1]			8 [1.0]	8 [1.0]	
Mesentery	(0)	(0)	(0)	(1)	(0)	(0)
Fat, Inflammation, Chronic				1 [4.0]		
Inflammation, Chronic Active						
Salivary Glands	(1)	(0)	(0)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(1)	(0)	(0)	(0)	(0)	(0)
Heart	(1)	(0)	(0)	(0)	(0)	(0)
ENDOCRINE SYSTEM						
Adrenal Cortex	(23)	(0)	(0)	(25)	(26)	(0)
Accessory Adrenal Cortical Nodule	1			1	2	

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 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Vacuolization Cytoplasmic						
Adrenal Medulla	(22)	(0)	(0)	(25)	(26)	(0)
Parathyroid Gland	(1)	(0)	(1)	(0)	(0)	(0)
Pituitary Gland	(24)	(0)	(0)	(25)	(26)	(0)
Mineralization					1 [1.0]	
Pars Distalis, Cyst						
Pars Distalis, Cyst, Multiple				2		
Pars Distalis, Vacuolization Cytoplasmic						
Thyroid Gland	(24)	(0)	(0)	(25)	(26)	(0)
Inflammation, Chronic	1 [1.0]			2 [1.0]		
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Coagulating Gland	(23)	(24)	(22)	(25)	(26)	(25)
Ductus Deferens	(0)	(0)	(0)	(0)	(0)	(0)
Ectasia						
Epididymis	(24)	(25)	(25)	(25)	(26)	(25)
Degeneration						
Hypospermia	2 [2.5]			1 [4.0]	1 [4.0]	1 [4.0]
Infiltration Cellular, Lymphocyte	1 [1.0]	2 [1.0]	2 [1.0]		2 [1.0]	1 [1.0]
Penis	(0)	(0)	(0)	(0)	(0)	(0)
Preputial Gland	(0)	(0)	(0)	(1)	(0)	(0)
Duct, Dilatation				1 [4.0]		
Inflammation, Chronic						
Inflammation, Suppurative				1 [4.0]		
Prostate	(2)	(5)	(4)	(4)	(3)	(8)
Prostate, Dorsal Lobe	(23)	(25)	(25)	(25)	(26)	(25)
Epithelium, Hyperplasia						

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Lab: NCTR

CD Rat MALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Inflammation, Chronic	6 [1.0]	4 [1.3]	6 [1.3]	10 [1.3]	8 [1.3]	4 [1.0]
Inflammation, Suppurative Lymphatic, Ectasia	8 [1.3]	9 [1.8]	7 [1.6]	16 [1.4]	8 [2.0]	7 [1.3]
Prostate, Ventral Lobe	(23)	(25)	(25)	(25)	(26)	(25)
Inflammation, Chronic	17 [1.6]	16 [1.3]	19 [1.3]	17 [1.2]	20 [1.6]	15 [1.3]
Inflammation, Suppurative	2 [1.5]	2 [1.5]	2 [1.5]	2 [2.0]		5 [1.4]
Rete Testes	(24)	(25)	(24)	(25)	(26)	(25)
Dilatation	2 [2.5]					
Seminal Vesicle	(24)	(23)	(25)	(24)	(26)	(25)
Dilatation	3 [2.0]	1 [2.0]		1 [2.0]		2 [2.0]
Epithelium, Degeneration	1 [2.0]					
Epithelium, Hyperplasia						
Inflammation, Chronic						
Lymphatic, Ectasia						
Malformation		1				
Testes	(25)	(25)	(25)	(25)	(26)	(25)
Autolysis	1					
Edema				1 [2.0]		
Seminif Tub, Degeneration	3 [3.0]	2 [2.0]	2 [1.0]	2 [2.5]	1 [4.0]	2 [2.5]
HEMATOPOIETIC SYSTEM						
Bone Marrow	(24)	(0)	(0)	(25)	(26)	(0)
Spleen	(24)	(0)	(0)	(25)	(26)	(0)
Adventitia, Inflammation, Chronic				2 [1.0]	1 [2.0]	
Capsule, Fibrosis				1 [2.0]		
Capsule, Inflammation, Chronic				1 [1.0]		
Hyperplasia, Stromal						
Pigmentation	5 [1.0]			9 [1.3]	6 [1.0]	
Red Pulp, Fibrosis					1 [2.0]	
Thymus	(24)	(0)	(0)	(23)	(26)	(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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 Lab: NCTR

CD Rat MALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Atrophy Epithel Cell, Hyperplasia Hemorrhage					1 [3.0]	
INTEGUMENTARY SYSTEM						
Mammary Gland	(23)	(24)	(23)	(24)	(26)	(24)
Alveolus, Hyperplasia	1 [1.0]	3 [1.3]	2 [1.5]	5 [1.6]	1 [1.0]	
Duct, Hyperplasia				1 [1.0]		1 [1.0]
Skin	(25)	(0)	(0)	(25)	(26)	(0)
MUSCULOSKELETAL SYSTEM						
Bone, Femur	(25)	(0)	(0)	(25)	(26)	(0)
Bone, Vertebra Malformation	(0)	(0)	(0)	(0)	(0)	(0)
NERVOUS SYSTEM						
None						
RESPIRATORY SYSTEM						
Nose	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
None						
URINARY SYSTEM						
Kidney	(24)	(0)	(1)	(25)	(26)	(25)
Capsule, Fat, Cyst						1
Casts Protein	1 [1.0]			1 [1.0]	1 [1.0]	
Cortex, Cyst			1			2
Cortex, Cyst, Multiple						
Epithelium, Hyperplasia						
Epithelium, Pelvis, Hyperplasia						1 [1.0]
Hyaline Droplet	2 [1.0]					

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CD Rat MALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Hyaline Droplet	2 [1.0]					
Infiltration Cellular, Lymphocyte						
Inflammation, Chronic	20 [1.1]			18 [1.1]	16 [1.0]	16 [1.1]
Interstitialium, Fibrosis	2 [2.0]					
Pelvis, Dilatation						
Renal Tubule, Dilatation	8 [1.8]			8 [1.0]	5 [1.2]	6 [1.7]
Renal Tubule, Mineralization	1 [1.0]				1 [1.0]	3 [2.0]
Renal Tubule, Regeneration	10 [1.0]			7 [1.0]	6 [1.0]	6 [1.0]
Renal Tubule, Vacuolization Cytoplasmic						
Urinary Bladder	(0)	(0)	(0)	(0)	(0)	(0)

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CD Rat MALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
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						
Liver	(0)	(25)	(25)	(0)	(0)	(25)
Fibrosis						
Hemorrhage						
Hepatodiaphragmatic Nodule						
Inflammation, Chronic		22 [1.0]	18 [1.0]			22 [1.0]
Malformation			1			
Necrosis		2 [1.0]	1 [1.0]			1 [1.0]
Perivascular, Fibrosis						
Vacuolization Cytoplasmic		3 [1.0]	3 [1.0]			2 [1.0]
Mesentery	(0)	(0)	(0)	(0)	(0)	(0)
Fat, Inflammation, Chronic						
Inflammation, Chronic Active						
Salivary Glands	(0)	(0)	(0)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(0)	(0)	(0)
Heart	(0)	(0)	(0)	(0)	(0)	(0)
ENDOCRINE SYSTEM						
Adrenal Cortex	(0)	(24)	(25)	(0)	(0)	(25)
Accessory Adrenal Cortical Nodule			2			

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CD Rat MALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Vacuolization Cytoplasmic		1 [2.0]				1 [2.0]
Adrenal Medulla	(0)	(24)	(25)	(0)	(0)	(25)
Parathyroid Gland	(0)	(0)	(0)	(0)	(0)	(0)
Pituitary Gland	(0)	(25)	(25)	(0)	(0)	(25)
Mineralization						
Pars Distalis, Cyst			1			
Pars Distalis, Cyst, Multiple		1	2			1
Pars Distalis, Vacuolization Cytoplasmic			3 [1.7]			
Thyroid Gland	(0)	(25)	(25)	(0)	(0)	(25)
Inflammation, Chronic		1 [1.0]				
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Coagulating Gland	(25)	(25)	(24)	(25)	(24)	(24)
Ductus Deferens	(0)	(0)	(0)	(0)	(0)	(0)
Ectasia						
Epididymis	(25)	(25)	(25)	(25)	(25)	(25)
Degeneration						1 [3.0]
Hypospermia					1 [3.0]	1 [4.0]
Infiltration Cellular, Lymphocyte	1 [1.0]	2 [1.0]	1 [1.0]			
Penis	(0)	(0)	(0)	(0)	(0)	(0)
Preputial Gland	(0)	(1)	(0)	(0)	(0)	(0)
Duct, Dilatation						
Inflammation, Chronic		1 [2.0]				
Inflammation, Suppurative						
Prostate	(5)	(3)	(5)	(9)	(5)	(6)
Prostate, Dorsal Lobe	(25)	(24)	(25)	(25)	(25)	(25)
Epithelium, Hyperplasia	1 [1.0]				1 [1.0]	

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CD Rat MALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Inflammation, Chronic	5 [1.0]	9 [1.3]	7 [1.3]	4 [1.3]	6 [1.2]	6 [1.2]
Inflammation, Suppurative Lymphatic, Ectasia	12 [1.5]	13 [1.8]	4 [1.3]	6 [1.5]	8 [1.6]	7 [1.3]
Prostate, Ventral Lobe	(25)	(24)	(25)	(25)	(25)	(25)
Inflammation, Chronic	18 [1.5]	13 [1.2]	19 [1.5]	15 [1.6]	15 [1.5]	17 [1.4]
Inflammation, Suppurative	2 [1.5]	3 [1.3]	6 [1.7]	2 [2.0]	6 [1.3]	5 [1.2]
Rete Testes	(23)	(25)	(25)	(22)	(25)	(20)
Dilatation					2 [2.0]	
Seminal Vesicle	(25)	(25)	(25)	(25)	(25)	(25)
Dilatation		3 [2.0]	1 [1.0]	1 [2.0]		2 [2.0]
Epithelium, Degeneration						
Epithelium, Hyperplasia				1 [2.0]		
Inflammation, Chronic				1 [1.0]	1 [1.0]	
Lymphatic, Ectasia						
Malformation						
Testes	(25)	(25)	(25)	(25)	(25)	(24)
Autolysis						
Edema						
Seminif Tub, Degeneration	1 [1.0]	2 [1.0]	3 [1.7]		2 [3.0]	1 [1.0]
HEMATOPOIETIC SYSTEM						
Bone Marrow	(0)	(25)	(25)	(0)	(0)	(25)
Spleen	(0)	(25)	(25)	(0)	(0)	(25)
Adventitia, Inflammation, Chronic			1 [1.0]			
Capsule, Fibrosis						
Capsule, Inflammation, Chronic						
Hyperplasia, Stromal		2 [1.0]				1 [1.0]
Pigmentation		5 [1.0]	5 [1.4]			4 [1.0]
Red Pulp, Fibrosis						
Thymus	(0)	(25)	(25)	(0)	(1)	(25)

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CD Rat MALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Atrophy Epithel Cell, Hyperplasia Hemorrhage		1 [2.0]			1 [3.0]	
INTEGUMENTARY SYSTEM						
Mammary Gland	(25)	(25)	(24)	(25)	(25)	(25)
Alveolus, Hyperplasia	3 [1.0]	10 [1.9]	2 [2.0]		7 [1.3]	18 [1.4]
Duct, Hyperplasia	2 [1.0]	8 [1.6]			1 [1.0]	10 [1.4]
Skin	(0)	(25)	(25)	(0)	(0)	(25)
MUSCULOSKELETAL SYSTEM						
Bone, Femur	(0)	(25)	(25)	(0)	(0)	(25)
Bone, Vertebra Malformation	(0)	(0)	(0)	(0)	(0)	(0)
NERVOUS SYSTEM						
None						
RESPIRATORY SYSTEM						
Nose	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
None						
URINARY SYSTEM						
Kidney	(25)	(25)	(25)	(25)	(25)	(25)
Capsule, Fat, Cyst		1		1	1	1
Casts Protein		1 [1.0]		2 [1.0]		
Cortex, Cyst		1		1		2
Cortex, Cyst, Multiple		1				
Epithelium, Hyperplasia		1 [1.0]				
Epithelium, Pelvis, Hyperplasia						
Hyaline Droplet						

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CD Rat MALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Hyaline Droplet						
Infiltration Cellular, Lymphocyte	1 [1.0]					
Inflammation, Chronic	19 [1.0]	22 [1.1]	20 [1.1]	16 [1.0]	16 [1.0]	23 [1.0]
Interstitialium, Fibrosis						
Pelvis, Dilatation	1 [2.0]					1 [2.0]
Renal Tubule, Dilatation	2 [2.5]	8 [1.8]	8 [1.8]	1 [1.0]	5 [1.8]	6 [1.3]
Renal Tubule, Mineralization	8 [1.0]	15 [1.7]		1 [1.0]	4 [1.0]	6 [1.0]
Renal Tubule, Regeneration	8 [1.0]	19 [1.2]	8 [1.0]	3 [1.0]	8 [1.0]	9 [1.0]
Renal Tubule, Vacuolization Cytoplasmic		1 [1.0]				
Urinary Bladder	(0)	(0)	(0)	(0)	(0)	(1)

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CD Rat MALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
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						
Liver	(25)	(0)	(0)	(24)	(25)	(0)
Fibrosis	1 [2.0]					
Hemorrhage						
Hepatodiaphragmatic Nodule	1					
Inflammation, Chronic	22 [1.0]			23 [1.0]	18 [1.0]	
Malformation						
Necrosis	2 [1.0]			1 [2.0]	3 [1.0]	
Perivascular, Fibrosis						
Vacuolization Cytoplasmic	3 [1.0]				3 [1.3]	
Mesentery	(0)	(0)	(0)	(0)	(0)	(1)
Fat, Inflammation, Chronic						
Inflammation, Chronic Active						1 [4.0]
Salivary Glands	(0)	(0)	(0)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(1)	(0)	(0)
Heart	(0)	(0)	(0)	(0)	(0)	(0)
ENDOCRINE SYSTEM						
Adrenal Cortex	(25)	(0)	(0)	(25)	(25)	(0)
Accessory Adrenal Cortical Nodule	3			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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:17
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Vacuolization Cytoplasmic						
Adrenal Medulla	(25)	(0)	(0)	(25)	(25)	(0)
Parathyroid Gland	(0)	(0)	(0)	(0)	(0)	(0)
Pituitary Gland	(25)	(0)	(0)	(25)	(25)	(0)
Mineralization						
Pars Distalis, Cyst	1					
Pars Distalis, Cyst, Multiple	3			1		
Pars Distalis, Vacuolization Cytoplasmic						
Thyroid Gland	(25)	(0)	(0)	(25)	(25)	(0)
Inflammation, Chronic	1 [1.0]					
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Coagulating Gland	(25)	(25)	(25)	(25)	(25)	(25)
Ductus Deferens	(0)	(1)	(0)	(0)	(0)	(0)
Ectasia		1 [4.0]				
Epididymis	(25)	(25)	(25)	(25)	(25)	(25)
Degeneration	1 [3.0]					
Hypospermia	1 [4.0]	1 [4.0]			1 [4.0]	
Infiltration Cellular, Lymphocyte	3 [1.0]			1 [1.0]	1 [1.0]	2 [1.0]
Penis	(0)	(0)	(0)	(0)	(0)	(0)
Preputial Gland	(0)	(0)	(0)	(0)	(0)	(0)
Duct, Dilatation						
Inflammation, Chronic						
Inflammation, Suppurative						
Prostate	(3)	(5)	(3)	(5)	(3)	(7)
Prostate, Dorsal Lobe	(25)	(25)	(25)	(25)	(25)	(25)
Epithelium, Hyperplasia	1 [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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:18
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat MALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Inflammation, Chronic	8 [1.1]	1 [1.0]	6 [1.5]	7 [1.0]	8 [1.3]	5 [1.2]
Inflammation, Suppurative	5 [1.6]	8 [1.1]	10 [1.6]	2 [1.0]	4 [1.5]	6 [1.5]
Lymphatic, Ectasia		1 [4.0]				
Prostate, Ventral Lobe	(25)	(25)	(25)	(25)	(25)	(25)
Inflammation, Chronic	18 [1.4]	19 [1.2]	17 [1.5]	19 [1.3]	18 [1.4]	17 [1.5]
Inflammation, Suppurative	3 [1.0]	4 [1.0]	5 [1.4]	3 [1.0]	4 [1.5]	3 [1.3]
Rete Testes	(24)	(25)	(25)	(24)	(25)	(20)
Dilatation	1 [4.0]	2 [3.0]			1 [3.0]	
Seminal Vesicle	(25)	(25)	(25)	(25)	(25)	(25)
Dilatation	3 [2.0]			1 [2.0]		
Epithelium, Degeneration						
Epithelium, Hyperplasia						
Inflammation, Chronic						
Lymphatic, Ectasia		1 [4.0]				
Malformation						
Testes	(25)	(24)	(25)	(25)	(25)	(25)
Autolysis						
Edema						
Seminif Tub, Degeneration	2 [2.5]	1 [4.0]	2 [2.5]	3 [1.0]	3 [2.0]	1 [1.0]
HEMATOPOIETIC SYSTEM						
Bone Marrow	(25)	(0)	(0)	(25)	(25)	(0)
Spleen	(25)	(0)	(0)	(25)	(25)	(0)
Adventitia, Inflammation, Chronic	1 [2.0]				2 [1.0]	
Capsule, Fibrosis						
Capsule, Inflammation, Chronic						
Hyperplasia, Stromal				2 [1.0]		
Pigmentation	2 [1.0]			4 [1.3]	6 [1.0]	
Red Pulp, Fibrosis						
Thymus	(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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Atrophy Epithel Cell, Hyperplasia Hemorrhage	1 [2.0]					
INTEGUMENTARY SYSTEM						
Mammary Gland	(24)	(25)	(25)	(23)	(25)	(25)
Alveolus, Hyperplasia	4 [1.3]	2 [1.0]	5 [1.0]	4 [1.8]	4 [1.5]	4 [1.3]
Duct, Hyperplasia			1 [1.0]	4 [1.3]		
Skin	(24)	(0)	(0)	(25)	(25)	(0)
MUSCULOSKELETAL SYSTEM						
Bone, Femur	(25)	(0)	(0)	(25)	(25)	(0)
Bone, Vertebra Malformation	(0)	(1)	(0)	(0)	(0)	(0)
NERVOUS SYSTEM						
None						
RESPIRATORY SYSTEM						
Nose	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
None						
URINARY SYSTEM						
Kidney	(25)	(1)	(0)	(25)	(25)	(0)
Capsule, Fat, Cyst		1		1		
Casts Protein				1 [1.0]		
Cortex, Cyst						
Cortex, Cyst, Multiple						
Epithelium, Hyperplasia						
Epithelium, Pelvis, Hyperplasia						
Hyaline Droplet						

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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Hyaline Droplet						
Infiltration Cellular, Lymphocyte						
Inflammation, Chronic	21 [1.1]			18 [1.0]	18 [1.1]	
Interstitialium, Fibrosis						
Pelvis, Dilatation				1 [2.0]	1 [2.0]	
Renal Tubule, Dilatation	8 [1.9]			4 [1.5]	13 [1.4]	
Renal Tubule, Mineralization					1 [1.0]	
Renal Tubule, Regeneration	8 [1.1]			13 [1.0]	6 [1.2]	
Renal Tubule, Vacuolization Cytoplasmic						
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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Disposition Summary		
Animals Initially In Study	25	25
Early Deaths		
Survivors		
Natural Death		
Terminal Sacrifice	25	25
Animals Examined Microscopically	25	25
ALIMENTARY SYSTEM		
Liver	(0)	(25)
Fibrosis		
Hemorrhage		
Hepatodiaphragmatic Nodule		
Inflammation, Chronic		18 [1.1]
Malformation		1
Necrosis		2 [1.5]
Perivascular, Fibrosis		
Vacuolization Cytoplasmic		1 [1.0]
Mesentery	(0)	(0)
Fat, Inflammation, Chronic		
Inflammation, Chronic Active		
Salivary Glands	(0)	(0)
CARDIOVASCULAR SYSTEM		
Blood Vessel	(0)	(0)
Heart	(0)	(0)
ENDOCRINE SYSTEM		
Adrenal Cortex	(0)	(25)
Accessory Adrenal Cortical Nodule		2

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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Vacuolization Cytoplasmic		
Adrenal Medulla	(0)	(25)
Parathyroid Gland	(0)	(0)
Pituitary Gland	(0)	(25)
Mineralization		
Pars Distalis, Cyst		1
Pars Distalis, Cyst, Multiple		1
Pars Distalis, Vacuolization Cytoplasmic		
Thyroid Gland	(0)	(25)
Inflammation, Chronic		
GENERAL BODY SYSTEM		
None		
GENITAL SYSTEM		
Coagulating Gland	(25)	(25)
Ductus Deferens	(0)	(0)
Ectasia		
Epididymis	(25)	(25)
Degeneration		
Hypospermia		
Infiltration Cellular, Lymphocyte	1 [1.0]	1 [1.0]
Penis	(1)	(0)
Preputial Gland	(0)	(0)
Duct, Dilatation		
Inflammation, Chronic		
Inflammation, Suppurative		
Prostate	(1)	(1)
Prostate, Dorsal Lobe	(25)	(25)
Epithelium, 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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Inflammation, Chronic	6 [1.2]	6 [1.0]
Inflammation, Suppurative Lymphatic, Ectasia	5 [1.4]	6 [1.3]
Prostate, Ventral Lobe	(25)	(25)
Inflammation, Chronic	23 [1.3]	23 [1.4]
Inflammation, Suppurative	5 [1.4]	2 [1.5]
Rete Testes	(24)	(22)
Dilatation		
Seminal Vesicle	(24)	(25)
Dilatation		1 [2.0]
Epithelium, Degeneration		
Epithelium, Hyperplasia		
Inflammation, Chronic		
Lymphatic, Ectasia		
Malformation		
Testes	(25)	(25)
Autolysis		
Edema		
Seminif Tub, Degeneration	4 [1.0]	3 [1.0]
HEMATOPOIETIC SYSTEM		
Bone Marrow	(0)	(25)
Spleen	(0)	(25)
Adventitia, Inflammation, Chronic		
Capsule, Fibrosis		
Capsule, Inflammation, Chronic		
Hyperplasia, Stromal		
Pigmentation		10 [1.0]
Red Pulp, Fibrosis		
Thymus	(0)	(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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Atrophy Epithel Cell, Hyperplasia Hemorrhage		
INTEGUMENTARY SYSTEM		
Mammary Gland	(25)	(24)
Alveolus, Hyperplasia	6 [1.5]	6 [1.7]
Duct, Hyperplasia		
Skin	(0)	(23)
MUSCULOSKELETAL SYSTEM		
Bone, Femur	(0)	(25)
Bone, Vertebra Malformation	(0)	(0)
NERVOUS SYSTEM		
None		
RESPIRATORY SYSTEM		
Nose	(0)	(1)
SPECIAL SENSES SYSTEM		
None		
URINARY SYSTEM		
Kidney	(0)	(25)
Capsule, Fat, Cyst		
Casts Protein		1 [1.0]
Cortex, Cyst		2
Cortex, Cyst, Multiple		
Epithelium, Hyperplasia		
Epithelium, Pelvis, Hyperplasia		
Hyaline Droplet		

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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat MALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Hyaline Droplet		
Infiltration Cellular, Lymphocyte		
Inflammation, Chronic		15 [1.0]
Interstitialium, Fibrosis		
Pelvis, Dilatation		2 [2.5]
Renal Tubule, Dilatation		3 [1.0]
Renal Tubule, Mineralization		
Renal Tubule, Regeneration		10 [1.0]
Renal Tubule, Vacuolization Cytoplasmic		
Urinary Bladder	(0)	(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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:18
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Disposition Summary						
Animals Initially In Study	26	25	26	25	25	25
Early Deaths						
Survivors						
Moribund	1		1			
Natural Death					1	
Terminal Sacrifice	25	25	25	25	24	25
Animals Examined Microscopically	26	25	26	25	25	25
ALIMENTARY SYSTEM						
Esophagus	(1)	(0)	(1)	(0)	(0)	(0)
Dilatation	1 [3.0]					
Intestine Large, Cecum	(1)	(0)	(1)	(0)	(0)	(0)
Epithelium, Autolysis						
Intestine Large, Colon	(1)	(0)	(1)	(0)	(0)	(0)
Intestine Small, Duodenum	(1)	(0)	(1)	(0)	(0)	(0)
Epithelium, Autolysis						
Hyperplasia						
Intestine Small, Ileum	(1)	(0)	(1)	(0)	(0)	(0)
Epithelium, Autolysis						
Intestine Small, Jejunum	(1)	(0)	(1)	(0)	(0)	(0)
Epithelium, Autolysis						
Liver	(26)	(1)	(1)	(25)	(25)	(1)
Autolysis					1 [2.0]	
Bile Duct, Inflammation						
Congestion						
Crystals			1 [4.0]			
Developmental Malformation	3	1				
Hepatodiaphragmatic Nodule						

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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:18
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Inflammation, Chronic Active	1 [2.0]			2 [1.5]		
Inflammation, Chronic Active, Focal					4 [1.3]	
Left Lat Lobe, Developmental Malformation				2		
Median Lobe, Developmental Malformation				1		
Necrosis, Focal						
Pancreas	(1)	(0)	(1)	(0)	(0)	(0)
Autolysis						
Salivary Glands	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis					1 [3.0]	
Stomach, Forestomach	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis					1 [4.0]	
Stomach, Glandular	(1)	(0)	(1)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(0)	(0)	(0)
Heart	(1)	(0)	(1)	(0)	(1)	(0)
Cardiomyopathy	1 [2.0]					
Cardiomyopathy, Focal					1 [2.0]	
ENDOCRINE SYSTEM						
Adrenal Cortex	(26)	(0)	(1)	(25)	(25)	(0)
Autolysis					1 [2.0]	
Hyperplasia, Focal						
Hyperplasia, Multifocal, Focal						
Adrenal Medulla	(26)	(0)	(1)	(25)	(25)	(0)
Autolysis					1 [2.0]	
Bilateral, Vacuolization Cytoplasmic	1 [2.0]					
Pituitary Gland	(26)	(0)	(1)	(25)	(25)	(0)
Autolysis					1 [2.0]	
Rathkes Cleft, Cyst					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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:18
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Thyroid Gland	(25)	(0)	(1)	(25)	(25)	(0)
Autolysis					1 [2.0]	
Bilateral, Infiltration Cellular, Lymphocyte, Focal						
Bilateral, Ultimobranchial Cyst					1	
Cyst						
Ultimobranchial Cyst						
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Clitoral Gland	(0)	(1)	(1)	(1)	(0)	(0)
Abscess				1		
Inflammation, Chronic Active		1 [2.0]				
Keratin Cyst				1		
Ovary	(26)	(25)	(26)	(25)	(25)	(25)
Autolysis					1 [1.0]	
Corpus Luteum, Hypertrophy			1 [3.0]			
Cyst						1
Diestrus	10	9	7	6	8	2
Estrus	2	2	1		7	8
Metestrus	6	6	8	13	1	6
Proestrus	8	8	9	6	8	9
Oviduct	(26)	(25)	(26)	(25)	(25)	(25)
Estrus				1		
Uterus	(26)	(25)	(26)	(25)	(25)	(25)
Angiectasis, Focal						1 [3.0]
Autolysis					1 [2.0]	
Decidual Reaction	24	24	24	23	22	20
Diestrus	10	9	7	6	8	2

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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Endometrium, Cyst						
Endometrium, Dilatation						
Endometrium, Hyperplasia, Cystic						
Endometrium, Inflammation, Diffuse						1 [2.0]
Estrus	2	2	1		6	8
Infiltration Cellular, Eosinophil	1 [3.0]					
Inflammation, Chronic Active, Focal						1 [3.0]
Metestrus	7	5	8	13	2	5
Pregnancy			1			
Proestrus	7	8	9	6	8	9
Vagina	(26)	(25)	(26)	(25)	(25)	(25)
Autolysis					1 [2.0]	
Diestrus	10	9	8	7	8	1
Estrus	3	6	2	1	9	10
Infiltration Cellular, Eosinophil	1 [4.0]					
Infiltration Cellular, Polymorphnuclr						1 [2.0]
Keratin Cyst				1		
Metestrus	7	6	8	12	2	6
Mucocyte, Hyperplasia			1 [3.0]			
Mucocyte, Hypertrophy	1 [2.0]		1 [3.0]			
Proestrus	6	4	7	5	5	7
HEMATOPOIETIC SYSTEM						
Bone Marrow	(26)	(0)	(1)	(25)	(25)	(0)
Autolysis						
Lymph Node, Mandibular	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis					1 [3.0]	
Lymph Node, Mesenteric	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis					1 [2.0]	
Hyperplasia, Reticulum Cell						

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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:18
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Spleen	(25)	(0)	(1)	(24)	(25)	(0)
Autolysis					1 [2.0]	
Pigmentation	1 [2.0]					
Thymus	(26)	(0)	(1)	(25)	(25)	(0)
Atrophy	1 [3.0]					
INTEGUMENTARY SYSTEM						
Mammary Gland	(25)	(25)	(26)	(25)	(24)	(23)
Alveolus, Hyperplasia	10 [1.8]	12 [2.1]	8 [2.1]	8 [1.4]	8 [1.9]	6 [2.2]
Duct, Hyperplasia			1 [3.0]			
Galactocele					1	
Lobules, Hyperplasia	3 [2.0]	1 [1.0]	3 [1.0]	1 [1.0]	1 [4.0]	2 [4.0]
Skin	(26)	(0)	(2)	(25)	(25)	(0)
Lip, Abscess						
MUSCULOSKELETAL SYSTEM						
Bone	(1)	(0)	(0)	(0)	(0)	(0)
Necrosis, Focal	1 [3.0]					
Bone, Femur	(26)	(0)	(1)	(25)	(25)	(0)
NERVOUS SYSTEM						
Brain	(0)	(0)	(0)	(0)	(0)	(0)
Brain, Brain Stem	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis					1 [2.0]	
Brain, Cerebellum	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis					1 [2.0]	
Brain, Cerebrum	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis					1 [2.0]	
Unilateral, Hydrocephalus						
RESPIRATORY 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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Lung	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis						
Congestion						
Congestion, Diffuse					1 [4.0]	
Infiltration Cellular, Macrophage						
Inflammation, Multifocal, Chronic Active	1 [3.0]					
Nose	(1)	(0)	(1)	(0)	(1)	(0)
Autolysis						
Congestion, Diffuse					1 [4.0]	
Trachea	(0)	(0)	(1)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(1)	(0)	(0)	(0)	(0)	(0)
Cornea, Edema	1 [3.0]					
URINARY SYSTEM						
Kidney	(26)	(25)	(26)	(25)	(25)	(25)
Apoptosis			1 [4.0]			
Autolysis					1 [3.0]	
Bilateral, Cyst						
Bilateral, Nephropathy	1 [2.0]				2 [1.0]	
Bilateral, Parenchym Cell, Proliferation			1 [3.0]			
Bilateral, Pelvis, Dilatation		1 [2.0]				
Cyst					1	
Cyst, Multiple						1
Infarct					1	
Inflammation, Chronic Active		1 [1.0]	2 [1.0]			
Inflammation, Chronic Active, Focal						
Left, Cyst						
Left, Pelvis, Dilatation	1 [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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F0 0 PPM	F0 5 PPM	F0 100 PPM	F0 500 PPM	F1 0 PPM	F1 5 PPM
Mineralization	17 [1.8]	21 [1.3]	22 [1.5]	14 [2.0]	21 [1.9]	23 [1.9]
Nephropathy						
Parenchym Cell, Proliferation, Focal						
Pelvis, Dilatation	1 [2.0]					1 [1.0]
Pelvis, Unilateral, Dilatation						
Renal Tubule, Cyst						
Renal Tubule, Dilatation, Focal						
Renal Tubule, Regeneration						
Urinary Bladder	(0)	(0)	(1)	(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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:19
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Disposition Summary						
Animals Initially In Study	25	25	25	25	25	25
Early Deaths						
Survivors						
Moribund						
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)
Dilatation						
Intestine Large, Cecum	(0)	(0)	(0)	(0)	(0)	(0)
Epithelium, Autolysis						
Intestine Large, Colon	(0)	(0)	(0)	(0)	(0)	(0)
Intestine Small, Duodenum	(0)	(0)	(0)	(0)	(0)	(0)
Epithelium, Autolysis						
Hyperplasia						
Intestine Small, Ileum	(0)	(0)	(0)	(0)	(0)	(0)
Epithelium, Autolysis						
Intestine Small, Jejunum	(0)	(0)	(0)	(0)	(0)	(0)
Epithelium, Autolysis						
Liver	(0)	(25)	(25)	(2)	(0)	(25)
Autolysis						
Bile Duct, Inflammation						1
Congestion						
Crystals						
Developmental Malformation		1		2		1
Hepatodiaphragmatic Nodule						

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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:19
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Inflammation, Chronic Active						
Inflammation, Chronic Active, Focal		5 [1.0]				1 [1.0]
Left Lat Lobe, Developmental Malformation						
Median Lobe, Developmental Malformation			1			1
Necrosis, Focal		1 [1.0]				1 [1.0]
Pancreas	(0)	(0)	(1)	(0)	(0)	(0)
Autolysis						
Salivary Glands	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Stomach, Forestomach	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Stomach, Glandular	(0)	(0)	(0)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(0)	(0)	(0)
Heart	(0)	(0)	(0)	(0)	(0)	(0)
Cardiomyopathy						
Cardiomyopathy, Focal						
ENDOCRINE SYSTEM						
Adrenal Cortex	(0)	(25)	(25)	(0)	(0)	(25)
Autolysis						
Hyperplasia, Focal		1 [1.0]				
Hyperplasia, Multifocal, Focal						
Adrenal Medulla	(0)	(25)	(25)	(0)	(0)	(25)
Autolysis						
Bilateral, Vacuolization Cytoplasmic						
Pituitary Gland	(0)	(25)	(25)	(0)	(0)	(25)
Autolysis						
Rathkes Cleft, Cyst		2				

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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:19
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Thyroid Gland	(0)	(25)	(25)	(0)	(0)	(25)
Autolysis						
Bilateral, Infiltration Cellular, Lymphocyte, Focal		1 [1.0]				
Bilateral, Ultimobranchial Cyst						
Cyst						1
Ultimobranchial Cyst		1				
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Clitoral Gland	(0)	(0)	(0)	(0)	(0)	(0)
Abscess						
Inflammation, Chronic Active						
Keratin Cyst						
Ovary	(25)	(25)	(25)	(25)	(25)	(25)
Autolysis						
Corpus Luteum, Hypertrophy						
Cyst		1				1
Diestrus	4	8	7	6	6	6
Estrus	6	5	5	7	6	2
Metestrus	7	5	6	4	6	7
Proestrus	7	7	7	8	7	10
Oviduct	(25)	(25)	(25)	(25)	(25)	(25)
Estrus						
Uterus	(25)	(25)	(25)	(25)	(25)	(25)
Angiectasis, Focal						
Autolysis						
Decidual Reaction	21	20	24	24	24	22
Diestrus	4	7	7	6	6	6

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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:19
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Endometrium, Cyst						
Endometrium, Dilatation		1 [1.0]				
Endometrium, Hyperplasia, Cystic						
Endometrium, Inflammation, Diffuse						
Estrus	7	5	5	7	6	2
Infiltration Cellular, Eosinophil						
Inflammation, Chronic Active, Focal						
Metestrus	7	5	6	4	6	7
Pregnancy						
Proestrus	7	8	7	8	7	10
Vagina	(25)	(25)	(24)	(23)	(24)	(23)
Autolysis						
Diestrus	4	7	7	6	6	6
Estrus	7	5	6	8	8	2
Infiltration Cellular, Eosinophil						
Infiltration Cellular, Polymorphnuclr						
Keratin Cyst						
Metestrus	7	6	6	4	6	7
Mucocyte, Hyperplasia						
Mucocyte, Hypertrophy						
Proestrus	7	7	5	5	4	8
HEMATOPOIETIC SYSTEM						
Bone Marrow	(0)	(25)	(25)	(0)	(0)	(25)
Autolysis						
Lymph Node, Mandibular	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Lymph Node, Mesenteric	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Hyperplasia, Reticulum Cell						

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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:19
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Spleen	(0)	(25)	(25)	(0)	(0)	(25)
Autolysis						
Pigmentation						
Thymus	(0)	(25)	(25)	(0)	(0)	(25)
Atrophy						
INTEGUMENTARY SYSTEM						
Mammary Gland	(25)	(25)	(24)	(25)	(25)	(25)
Alveolus, Hyperplasia	14 [1.7]	8 [1.4]	18 [1.6]	15 [1.9]	16 [1.7]	21 [1.6]
Duct, Hyperplasia						
Galactocele	1					
Lobules, Hyperplasia	2 [1.5]					
Skin	(1)	(25)	(25)	(0)	(0)	(25)
Lip, Abscess	1					
MUSCULOSKELETAL SYSTEM						
Bone	(0)	(0)	(0)	(0)	(0)	(0)
Necrosis, Focal						
Bone, Femur	(0)	(25)	(25)	(0)	(0)	(25)
NERVOUS SYSTEM						
Brain	(0)	(0)	(0)	(0)	(0)	(0)
Brain, Brain Stem	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Brain, Cerebellum	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Brain, Cerebrum	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Unilateral, Hydrocephalus						
RESPIRATORY 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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:19
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Lung	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Congestion						
Congestion, Diffuse						
Infiltration Cellular, Macrophage						
Inflammation, Multifocal, Chronic Active						
Nose	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Congestion, Diffuse						
Trachea	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(0)	(0)	(0)	(0)	(0)	(0)
Cornea, Edema						
URINARY SYSTEM						
Kidney	(24)	(25)	(25)	(25)	(25)	(25)
Apoptosis						
Autolysis						
Bilateral, Cyst				1		
Bilateral, Nephropathy						
Bilateral, Parenchym Cell, Proliferation						
Bilateral, Pelvis, Dilatation						
Cyst				2	2	2
Cyst, Multiple		1				
Infarct						1
Inflammation, Chronic Active	1 [1.0]			2 [1.5]	2 [1.5]	
Inflammation, Chronic Active, Focal						
Left, Cyst						
Left, Pelvis, Dilatation						

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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:19
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F1 100 PPM	F1 500 PPM	F2 0 PPM	F2 5 PPM	F2 100 PPM	F2 500 PPM
Mineralization	22 [1.8]	24 [1.9]	20 [1.7]	21 [1.7]	23 [1.5]	19 [1.7]
Nephropathy		2 [1.5]				
Parenchym Cell, Proliferation, Focal				1 [1.0]		
Pelvis, Dilatation		1 [3.0]		1 [3.0]		
Pelvis, Unilateral, Dilatation						
Renal Tubule, Cyst						
Renal Tubule, Dilatation, Focal					1 [2.0]	
Renal Tubule, Regeneration						
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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:19
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Disposition Summary						
Animals Initially In Study	25	25	25	25	26	25
Early Deaths						
Survivors						
Moribund						
Natural Death					1	
Terminal Sacrifice	25	25	25	25	25	25
Animals Examined Microscopically	25	25	25	25	26	25
ALIMENTARY SYSTEM						
Esophagus	(0)	(0)	(0)	(0)	(0)	(0)
Dilatation						
Intestine Large, Cecum	(0)	(0)	(0)	(0)	(1)	(0)
Epithelium, Autolysis					1 [2.0]	
Intestine Large, Colon	(0)	(0)	(0)	(0)	(1)	(0)
Intestine Small, Duodenum	(0)	(0)	(0)	(0)	(1)	(0)
Epithelium, Autolysis					1 [3.0]	
Hyperplasia					1 [2.0]	
Intestine Small, Ileum	(0)	(0)	(0)	(0)	(1)	(0)
Epithelium, Autolysis					1 [3.0]	
Intestine Small, Jejunum	(0)	(0)	(0)	(0)	(1)	(0)
Epithelium, Autolysis					1 [3.0]	
Liver	(25)	(2)	(0)	(24)	(26)	(0)
Autolysis						
Bile Duct, Inflammation						
Congestion						
Crystals						
Developmental Malformation	1					
Hepatodiaphragmatic Nodule		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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:19
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Inflammation, Chronic Active				1 [2.0]		
Inflammation, Chronic Active, Focal						
Left Lat Lobe, Developmental Malformation						
Median Lobe, Developmental Malformation						
Necrosis, Focal						
Pancreas	(0)	(0)	(0)	(0)	(1)	(0)
Autolysis					1 [3.0]	
Salivary Glands	(0)	(0)	(0)	(0)	(1)	(0)
Autolysis					1 [2.0]	
Stomach, Forestomach	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Stomach, Glandular	(0)	(0)	(0)	(0)	(0)	(0)
CARDIOVASCULAR SYSTEM						
Blood Vessel	(0)	(0)	(0)	(0)	(1)	(0)
Heart	(0)	(0)	(0)	(0)	(1)	(0)
Cardiomyopathy						
Cardiomyopathy, Focal						
ENDOCRINE SYSTEM						
Adrenal Cortex	(25)	(1)	(0)	(25)	(26)	(0)
Autolysis						
Hyperplasia, Focal	1 [1.0]					
Hyperplasia, Multifocal, Focal					1 [2.0]	
Adrenal Medulla	(25)	(1)	(0)	(25)	(26)	(0)
Autolysis						
Bilateral, Vacuolization Cytoplasmic						
Pituitary Gland	(25)	(1)	(0)	(25)	(26)	(0)
Autolysis						
Rathkes Cleft, Cyst						

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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:19
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Thyroid Gland Autolysis Bilateral, Infiltration Cellular, Lymphocyte, Focal Bilateral, Ultimobranchial Cyst Cyst Ultimobranchial Cyst	(25)	(1)	(0)	(25)	(26)	(0)
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
Clitoral Gland Abscess Inflammation, Chronic Active Keratin Cyst	(0)	(0)	(0)	(0)	(0)	(0)
Ovary Autolysis Corpus Luteum, Hypertrophy Cyst Diestrus Estrus Metestrus Proestrus	(25)	(25)	(25)	(25)	(25)	(24)
Oviduct Estrus	(25)	(25)	(25)	(25)	(25)	(24)
Uterus Angiectasis, Focal Autolysis Decidual Reaction Diestrus	(25)	(25)	(25)	(25)	(26)	(25)
					1 [2.0]	
	23	24	22	25	25	24
	7	2	9	8	6	9

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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:19
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Endometrium, Cyst				1		
Endometrium, Dilatation						
Endometrium, Hyperplasia, Cystic	1 [4.0]					
Endometrium, Inflammation, Diffuse						
Estrus	10	6	3	3	3	4
Infiltration Cellular, Eosinophil						
Inflammation, Chronic Active, Focal						
Metestrus	3	10	4	8	3	2
Pregnancy						
Proestrus	5	7	9	6	14	10
Vagina	(24)	(25)	(25)	(25)	(26)	(25)
Autolysis					1 [2.0]	
Diestrus	7	2	9	7	6	9
Estrus	7	8	7	5	9	6
Infiltration Cellular, Eosinophil						
Infiltration Cellular, Polymorphnuclr						
Keratin Cyst				1		
Metestrus	4	10	4	8	3	2
Mucocyte, Hyperplasia						
Mucocyte, Hypertrophy						
Proestrus	6	5	5	5	8	8
HEMATOPOIETIC SYSTEM						
Bone Marrow	(25)	(1)	(0)	(25)	(26)	(0)
Autolysis					1 [2.0]	
Lymph Node, Mandibular	(0)	(0)	(0)	(0)	(1)	(0)
Autolysis					1 [2.0]	
Lymph Node, Mesenteric	(0)	(0)	(0)	(0)	(1)	(0)
Autolysis						
Hyperplasia, Reticulum Cell					1 [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: 99930-91
 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 (Genistein)
 CAS Number: 446-72-0

Date Report Requested: 10/23/2014
 Time Report Requested: 03:11:19
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat FEMALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Spleen	(25)	(1)	(0)	(25)	(26)	(0)
Autolysis						
Pigmentation						
Thymus	(25)	(1)	(0)	(25)	(26)	(0)
Atrophy						
INTEGUMENTARY SYSTEM						
Mammary Gland	(25)	(25)	(25)	(25)	(26)	(25)
Alveolus, Hyperplasia	11 [1.9]	12 [2.2]	11 [1.6]	12 [1.8]	14 [2.4]	15 [2.1]
Duct, Hyperplasia						
Galactocele						
Lobules, Hyperplasia		4 [2.0]		3 [3.0]	7 [1.7]	6 [2.0]
Skin	(25)	(1)	(0)	(24)	(26)	(0)
Lip, Abscess						
MUSCULOSKELETAL SYSTEM						
Bone	(0)	(0)	(0)	(0)	(0)	(0)
Necrosis, Focal						
Bone, Femur	(25)	(1)	(0)	(25)	(26)	(0)
NERVOUS SYSTEM						
Brain	(0)	(0)	(0)	(0)	(1)	(0)
Brain, Brain Stem	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Brain, Cerebellum	(0)	(0)	(0)	(0)	(0)	(0)
Autolysis						
Brain, Cerebrum	(0)	(0)	(0)	(0)	(1)	(0)
Autolysis						
Unilateral, Hydrocephalus					1 [3.0]	
RESPIRATORY 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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:19
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Lung	(0)	(0)	(0)	(0)	(1)	(0)
Autolysis					1 [2.0]	
Congestion					1 [4.0]	
Congestion, Diffuse						
Infiltration Cellular, Macrophage					1 [3.0]	
Inflammation, Multifocal, Chronic Active						
Nose	(0)	(0)	(0)	(0)	(1)	(0)
Autolysis					1 [2.0]	
Congestion, Diffuse						
Trachea	(0)	(0)	(0)	(0)	(0)	(0)
SPECIAL SENSES SYSTEM						
Eye	(0)	(0)	(0)	(0)	(0)	(0)
Cornea, Edema						
URINARY SYSTEM						
Kidney	(25)	(25)	(25)	(25)	(26)	(25)
Apoptosis						
Autolysis						
Bilateral, Cyst						
Bilateral, Nephropathy						
Bilateral, Parenchym Cell, Proliferation						
Bilateral, Pelvis, Dilatation					1 [2.0]	
Cyst		2				2
Cyst, Multiple			1			
Infarct						
Inflammation, Chronic Active					1 [1.0]	
Inflammation, Chronic Active, Focal					1 [1.0]	
Left, Cyst						
Left, Pelvis, Dilatation						

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

Experiment Number: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:20
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F3 0 PPM	F3/5PPM TO CTL	F3/100PPM TO CTL	F3/500PPM TO CTL	F4 0 PPM	F4/5PPM TO CTL
Mineralization	21 [2.0]	22 [1.6]	22 [2.2]	15 [1.2]	23 [1.4]	23 [1.5]
Nephropathy						
Parenchym Cell, Proliferation, Focal						
Pelvis, Dilatation						
Pelvis, Unilateral, Dilatation	1 [2.0]					
Renal Tubule, Cyst	1			1		
Renal Tubule, Dilatation, Focal						
Renal Tubule, Regeneration		1 [1.0]				
Urinary Bladder	(0)	(0)	(0)	(0)	(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: 99930-91
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 (Genistein)
CAS Number: 446-72-0

Date Report Requested: 10/23/2014
Time Report Requested: 03:11:20
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Disposition Summary		
Animals Initially In Study	25	25
Early Deaths		
Survivors		
Moribund		
Natural Death		
Terminal Sacrifice	25	25
Animals Examined Microscopically	25	25
ALIMENTARY SYSTEM		
Esophagus	(0)	(0)
Dilatation		
Intestine Large, Cecum	(0)	(0)
Epithelium, Autolysis		
Intestine Large, Colon	(0)	(0)
Intestine Small, Duodenum	(0)	(0)
Epithelium, Autolysis		
Hyperplasia		
Intestine Small, Ileum	(0)	(0)
Epithelium, Autolysis		
Intestine Small, Jejunum	(0)	(0)
Epithelium, Autolysis		
Liver	(1)	(25)
Autolysis		
Bile Duct, Inflammation		
Congestion	1 [3.0]	
Crystals		
Developmental Malformation	1	
Hepatodiaphragmatic Nodule		

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Experiment Number: 99930-91
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 (Genistein)
CAS Number: 446-72-0

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

CD Rat FEMALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Inflammation, Chronic Active		
Inflammation, Chronic Active, Focal		
Left Lat Lobe, Developmental Malformation		
Median Lobe, Developmental Malformation		
Necrosis, Focal		
Pancreas	(0)	(0)
Autolysis		
Salivary Glands	(0)	(0)
Autolysis		
Stomach, Forestomach	(0)	(0)
Autolysis		
Stomach, Glandular	(0)	(0)
CARDIOVASCULAR SYSTEM		
Blood Vessel	(0)	(0)
Heart	(0)	(0)
Cardiomyopathy		
Cardiomyopathy, Focal		
ENDOCRINE SYSTEM		
Adrenal Cortex	(0)	(25)
Autolysis		
Hyperplasia, Focal		
Hyperplasia, Multifocal, Focal		
Adrenal Medulla	(0)	(25)
Autolysis		
Bilateral, Vacuolization Cytoplasmic		
Pituitary Gland	(0)	(25)
Autolysis		
Rathkes Cleft, Cyst		

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

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Experiment Number: 99930-91
Test Type: MULTIGEN CHRONIC
Route: DOSED FEED
Species/Strain: Rat/CD

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 AVERAGE SEVERITY GRADES[b]**
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CAS Number: 446-72-0

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Time Report Requested: 03:11:20
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Thyroid Gland	(0)	(25)
Autolysis		
Bilateral, Infiltration Cellular, Lymphocyte, Focal		
Bilateral, Ultimobranchial Cyst		
Cyst		
Ultimobranchial Cyst		
GENERAL BODY SYSTEM		
None		
GENITAL SYSTEM		
Clitoral Gland	(0)	(0)
Abscess		
Inflammation, Chronic Active		
Keratin Cyst		
Ovary	(24)	(25)
Autolysis		
Corpus Luteum, Hypertrophy		
Cyst		
Diestrus	7	8
Estrus	9	2
Metestrus		4
Proestrus	8	11
Oviduct	(24)	(25)
Estrus		3
Uterus	(25)	(25)
Angiectasis, Focal		
Autolysis		
Decidual Reaction	23	23
Diestrus	8	8

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

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Time Report Requested: 03:11:20
First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Endometrium, Cyst		
Endometrium, Dilatation		
Endometrium, Hyperplasia, Cystic		
Endometrium, Inflammation, Diffuse		
Estrus	9	2
Infiltration Cellular, Eosinophil		
Inflammation, Chronic Active, Focal		
Metestrus		5
Pregnancy		
Proestrus	8	10
Vagina	(25)	(25)
Autolysis		
Diestrus	8	8
Estrus	14	4
Infiltration Cellular, Eosinophil		
Infiltration Cellular, Polymorphnuclr		
Keratin Cyst		
Metestrus		5
Mucocyte, Hyperplasia		
Mucocyte, Hypertrophy		
Proestrus	3	8
HEMATOPOIETIC SYSTEM		
Bone Marrow	(0)	(25)
Autolysis		
Lymph Node, Mandibular	(0)	(0)
Autolysis		
Lymph Node, Mesenteric	(0)	(0)
Autolysis		
Hyperplasia, Reticulum Cell		

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

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

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

CD Rat FEMALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Spleen	(0)	(25)
Autolysis		
Pigmentation		
Thymus	(0)	(25)
Atrophy		
INTEGUMENTARY SYSTEM		
Mammary Gland	(25)	(25)
Alveolus, Hyperplasia	11 [2.6]	11 [2.3]
Duct, Hyperplasia		
Galactocele		
Lobules, Hyperplasia	6 [2.0]	4 [2.3]
Skin	(0)	(25)
Lip, Abscess		
MUSCULOSKELETAL SYSTEM		
Bone	(0)	(0)
Necrosis, Focal		
Bone, Femur	(0)	(25)
NERVOUS SYSTEM		
Brain	(0)	(0)
Brain, Brain Stem	(0)	(0)
Autolysis		
Brain, Cerebellum	(0)	(0)
Autolysis		
Brain, Cerebrum	(0)	(0)
Autolysis		
Unilateral, Hydrocephalus		
RESPIRATORY SYSTEM		

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

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Experiment Number: 99930-91
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First Dose M/F: NA / NA
Lab: NCTR

CD Rat FEMALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Lung	(0)	(0)
Autolysis		
Congestion		
Congestion, Diffuse		
Infiltration Cellular, Macrophage		
Inflammation, Multifocal, Chronic Active		
Nose	(0)	(0)
Autolysis		
Congestion, Diffuse		
Trachea	(0)	(0)
SPECIAL SENSES SYSTEM		
Eye	(0)	(0)
Cornea, Edema		
URINARY SYSTEM		
Kidney	(25)	(25)
Apoptosis		
Autolysis		
Bilateral, Cyst		
Bilateral, Nephropathy		
Bilateral, Parenchym Cell, Proliferation		
Bilateral, Pelvis, Dilatation		
Cyst	1	
Cyst, Multiple		
Infarct		
Inflammation, Chronic Active		
Inflammation, Chronic Active, Focal		
Left, Cyst		
Left, Pelvis, Dilatation		

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

Experiment Number: 99930-91
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]**

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CAS Number: 446-72-0

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

CD Rat FEMALE	F4/100PPM TO CTL	F4/500PPM TO CTL
Mineralization	22 [1.9]	16 [1.1]
Nephropathy		
Parenchym Cell, Proliferation, Focal		
Pelvis, Dilatation		
Pelvis, Unilateral, Dilatation		1 [3.0]
Renal Tubule, Cyst		
Renal Tubule, Dilatation, Focal		
Renal Tubule, Regeneration		
Urinary Bladder	(0)	(0)

**** END OF REPORT ****

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