

Experiment Number: 99920-94
Test Type: SPECIAL STUDY
Route: DOSED FEED
Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:27:57
First Dose M/F: NA / NA
Lab: NCTR

C Number:	MG96006
Lock Date:	12/02/2008
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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Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:27:58
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Male F1 0PPB	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		3	4	4	4	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
		8	1	4	7	2	5	9	1	3	4	8	0	0	3	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
		3	3	3	8	6	6	2	9	1	7	8	2	4	0	1	4	6	6	6	5	7	7	7	7	7	7	7	8	8	8	8
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	1	1	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	
	3	4	4	5	7	9	3	5	7	0	7	9	0	5	8	8	2	2	2	5	8	8	2	2	3	3	7	7	7	7	7	
	1	1	4	4	6	4	2	9	3	0	4	0	3	6	1	7	4	5	6	4	0	1	8	9	0	1	3	4	5	6	7	
Hyperplasia							1					2								2	2						1					
Hypertrophy																																
Vacuolization Cytoplasmic																						1	1		1		1	2	1			
Adrenal Medulla		+	A	+	+	A	+	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	
Bilateral, Hyperplasia																																
Hyperplasia										1				1	1																	
Islets, Pancreatic		A	A	+	+	A	+	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Hyperplasia					1					1	2												1	1		3				1	2	
Parathyroid Gland		+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Hyperplasia															3		2								3		2	2				
Pituitary Gland		+	A	+	+	A	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Pars Distalis, Cyst									X															X		X						
Pars Distalis, Hyperplasia															1			3					1								2	
Thyroid Gland		A	+	+	+	A	+	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
C Cell, Hyperplasia																										1						
Cyst, Squamous						X	X					X																				
General Body System																																
Tissue NOS																																
Degeneration, Cystic																																
Infiltration Cellular, Plasma Cell																																
Genital System																																
Coagulating Gland		A	A	+	+	A	+	+	+	+	+	+	A	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

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2) Mild 4) Marked

Species/Strain: Rat/CD

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Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:27:59

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 0PPB

DAY ON TEST

ANIMAL ID

[illegible]

Atrophy

Lumen, Dilatation

Testes

Seminif Tub, Degeneration

Hematopoietic System

Bone Marrow

Hypocellularity

Myeloid Cell, Hyperplasia

Lymph Node

Axillary, Hyperplasia, Lymphoid

Degeneration, Cystic

Inguinal, Degeneration, Cystic

Inguinal, Hyperplasia, Lymphoid

Inguinal, Infiltration Cellular, Plasma Cell

Lumbar, Degeneration, Cystic

Lumbar, Hyperplasia, Lymphoid

Lumbar, Infiltration Cellular, Plasma Cell

Mediastinal, Infiltration Cellular, Plasma Cell

Renal, Degeneration, Cystic

Lymph Node, Mandibular

Degeneration, Cystic

Hyperplasia, Lymphoid

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F1 0PPB

DAY ON TEST

ANIMAL ID

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	4	4	4	5	5	5	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	1	4	7	2	5	9	1	3	4	8	0	0	3	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
3	3	3	8	6	6	2	9	1	7	8	2	4	0	1	4	6	6	5	7	7	7	7	7	7	8	8	8	8	8
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	1	1	2	2	2	3	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5
3	4	4	5	7	9	3	5	7	0	7	9	0	5	8	8	2	2	2	5	8	8	2	2	3	3	7	7	7	7
1	1	4	4	6	4	2	9	3	0	4	0	3	6	1	7	4	5	6	4	0	1	8	9	0	1	3	4	5	6

Infiltration Cellular, Plasma Cell		3	2	2		3		2	3		2	2	2	2	2	3	2	2	3	3	4	2		2		2	2	2	2	3
Lymph Node, Mesenteric	A	A	+	A	A	+	+	+	+	+	A	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Degeneration, Cystic																														
Hyperplasia, Lymphoid									2																2					
Inflammation, Granulomatous								2		1					2			2					1		2				1	
Spleen	A	+	+	+	A	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Depletion Lymphoid				2																										
Hematopoietic Cell Proliferation								3	4	1		3	4	2				1	1				2		2	2	1	2	1	1
Hyperplasia, Lymphoid																					2							2		
Infiltration Cellular, Polymorphnuclr				3																										
Pigmentation				4								3			2	4				2	4	2			2	1			1	3
Thymus	A	A	+	+	A	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Atrophy				4			4		2	4	4		4	4	4	4	4	3	4	4	4	4	4	4	4	4	3	3	4	4
Cyst																														
Epithel Cell, Hyperplasia																								2						
Integumentary System																														
Mammary Gland	+	A	+	M	A	+	+	+	+	+	M	M	+	+	+	M	+	+	+	M	+	+	+	+	+	+	+	+	+	
Acinus, Degeneration						3		2	1				2	3			2	1			2	2	3		2	1	1	3	1	2
Alveolus, Hyperplasia																														
Ectasia																					2									
Lactation													2									1							2	
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

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Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 0PPB

DAY ON TEST

ANIMAL ID

Mediastinum, Inflammation, Suppurative

Mediastinum, Necrosis

Metaplasia, Osseous

Nose

Inflammation, Chronic Active

Inflammation, Suppurative

Mucosa, Hyperkeratosis

Trachea

Special Senses System

Eye

Bilateral, Cataract

Cataract

Hemorrhage

Inflammation, Suppurative

Harderian Gland

Infiltration Cellular, Lymphocyte

Zymbal's Gland

Urinary System

Kidney

Cyst

Medulla, Cyst

Nephropathy

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CD Rat Male
F1 0PPB

DAY ON TEST

ANIMAL ID

0 3 8 3	0 4 1 3	0 4 4 3	0 4 7 8	0 5 2 6	0 5 5 6	0 5 9 2	0 6 1 9	0 6 3 1	0 6 4 7	0 6 8 8	0 7 0 2	0 7 0 4	0 7 3 0	0 7 4 1	0 7 4 4	0 7 5 6	0 7 5 6	0 7 5 5	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 8	0 7 5 8	0 7 5 8	0 7 5 8	0 7 5 8
0 0 0 3 1	0 0 0 4 1	0 0 0 4 4	0 0 0 5 4	0 0 0 7 6	0 0 0 9 4	0 0 0 3 2	0 0 1 1 9	0 0 1 5 3	0 0 2 7 0	0 0 2 7 4	0 0 2 9 0	0 0 3 0 3	0 0 3 5 6	0 0 3 8 1	0 0 4 8 7	0 0 4 2 4	0 0 4 2 5	0 0 4 8 0	0 0 5 8 1	0 0 5 8 8	0 0 5 2 1	0 0 5 2 8	0 0 5 3 9	0 0 5 3 0	0 0 5 7 1	0 0 5 7 3	0 0 5 7 4	0 0 5 7 5	0 0 5 6 7

Transit Epithe, Hyperplasia

4

Urethra

+

Urinary Bladder

A A + A A + + + + + A + + + A + + + + + + + + + + + + + + + + +

Dilatation

4

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

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:01
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 0PPB

CD Rat Male F1 0PPB		DAY ON TEST																				*TOTALS	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
		5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6		
ANIMAL ID		8	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	2	2	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
		7	2	3	3	7	7	7	2	2	2	2	2	2	7	7	7	7	7	7	7	7	
		8	9	0	1	5	6	7	5	6	7	8	9	2	3	4	5	6	7	8	9		
Alimentary System																							
Esophagus		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	51	
Dilatation																						1 4.0	
Inflammation, Suppurative																						1 2.0	
Intestine Large, Cecum		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44	
Intestine Large, Colon		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45	
Hyperplasia, Lymphoid																						1 3.0	
Intestine Large, Rectum		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45	
Intestine Small, Duodenum		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44	
Intestine Small, Ileum		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	43	
Intestine Small, Jejunum		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	43	
Liver		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49	
Angiectasis																		2	2			3 2.3	
Basophilic Focus							X															1	
Bile Duct, Hyperplasia																			1			2 1.5	
Biliar Tract, Fibrosis					1																	4 1.3	
Clear Cell Focus																						1	
Degeneration, Cystic																				1	1	4 1.0	
Eosinophilic Focus					X									X								3	
Hematopoietic Cell Proliferation							1															2 1.5	
Hepatodiaphragmatic Nodule										X	X											6	
Inflammation, Chronic Active				1	1	1															1	13 1.1	

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CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:01

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 OPPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	1	1	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	2	2	2
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	7	2	3	3	7	7	7	2	2	2	2	7	7	7	7	7	7	7	7	7	7
	8	9	0	1	5	6	7	5	6	7	8	9	2	3	4	5	6	7	8	9	9
	*TOTALS																				
Left Lat Lobe, Developmental Malformation	X																				1
Vacuolization Cytoplasmic	2												1								12 1.4
Mesentery																					1
Oral Mucosa			+																		3
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Acinar Cell, Degeneration	3	4	2	3	2	1	3	1	1		2	1	3		4	4	3	2	2	2	40 2.3
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Edema																					1 4.0
Epithelium, Hyperplasia											2										2 2.5
Keratin Cyst																					1
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Cardiovascular System																					
Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	51
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	51
Cardiomyopathy	2	3	1	1	1	2	1	1	2	1	1	3	2	1				1	1	2	42 1.6
Metaplasia, Osseous																					1 2.0
Endocrine System																					
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Accessory Adrenal Cortical Nodule								X													3
Angiectasis										1											1 1.0
Degeneration, Cystic	2												1						2		4 1.5

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CD Rat Male
F1 0PPB

CD Rat Male F1 OPPB		DAY ON TEST																									
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7							
		5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6							
ANIMAL ID		8	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3							
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
		5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7							
		7	2	3	3	7	7	7	2	2	2	2	2	7	7	7	7	7	7	7							
		8	9	0	1	5	6	7	5	6	7	8	9	2	3	4	5	6	7	8							
		*TOTALS																									
Hyperplasia		1		1		1														8	1.4						
Hypertrophy		2														2		1				3	1.7				
Vacuolization Cytoplasmic						1		2								1		1		1	1	11	1.2				
Adrenal Medulla		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46						
Bilateral, Hyperplasia												1										1	1.0				
Hyperplasia						1								1						1	3	7	1.3				
Islets, Pancreatic		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46						
Hyperplasia		1		1												1		1						12	1.3		
Parathyroid Gland		+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	49						
Hyperplasia						2								2								7	2.3				
Pituitary Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48						
Pars Distalis, Cyst																						3					
Pars Distalis, Hyperplasia		1					1		1		1		1		2		2						11	1.5			
Thyroid Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47						
C Cell, Hyperplasia		1	2	1		1														1		6	1.2				
Cyst, Squamous												X												X		5	
General Body System																											
Tissue NOS																				+		1					
Degeneration, Cystic																				4		1	4.0				
Infiltration Cellular, Plasma Cell																				4		1	4.0				
Genital System																											
Coagulating Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46						

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:02
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male F1 0PPB		DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*TOTALS
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
		5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
		8	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	3	2	2	
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	
		7	2	3	3	7	7	7	2	2	2	2	2	7	7	7	7	7	7	7	7	
		8	9	0	1	5	6	7	5	6	7	8	9	2	3	4	5	6	7	8	9	
Infiltration Cellular, Plasma Cell		3	2	4	2	3	2	2	3	2		2		3	2		1		2		38	2.4
Lymph Node, Mesenteric		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45	
Degeneration, Cystic																	3				1	3.0
Hyperplasia, Lymphoid					2																3	2.0
Inflammation, Granulomatous							2									2					9	1.7
Spleen		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48	
Depletion Lymphoid																					1	2.0
Hematopoietic Cell Proliferation		1	3	2	2		1			1	2		2	2	2	2	1		1	1	29	1.8
Hyperplasia, Lymphoid											2		2				1				5	1.8
Infiltration Cellular, Polymorphnuclr																					1	3.0
Pigmentation		1				1		1	2		2			1		2	2		3		20	2.2
Thymus		+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	M	45	
Atrophy		4		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		43	3.9
Cyst								X													1	
Epithel Cell, Hyperplasia																	1				2	1.5
Integumentary System																						
Mammary Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	44	
Acinus, Degeneration		3		4	1		1		4	3	1		1	3	3	3			2	1	29	2.1
Alveolus, Hyperplasia								1													1	1.0
Ectasia																					1	2.0
Lactation																					3	1.7
Skin		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	51	

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:03
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 0PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	3	2	2	2
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	7	2	3	3	7	7	7	2	2	2	2	2	7	7	7	7	7	7	7	7	7	7
	8	9	0	1	5	6	7	5	6	7	8	9	2	3	3	4	5	6	7	8	9	9
	*TOTALS																					
Mediastinum, Inflammation, Suppurative																						1 4.0
Mediastinum, Necrosis																						1 4.0
Metaplasia, Osseous																						1 1.0
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Inflammation, Chronic Active																						3 2.0
Inflammation, Suppurative																	2					4 1.5
Mucosa, Hyperkeratosis												3										2 3.0
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Special Senses System																						
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Bilateral, Cataract																						2
Cataract																						1
Hemorrhage																						1 4.0
Inflammation, Suppurative																						1 4.0
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Infiltration Cellular, Lymphocyte						1					1											3 1.0
Zymbal's Gland																						1
Urinary System																						
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Cyst		X		X	X	X	X					X	X	X	X							20
Medulla, Cyst																						1
Nephropathy	2	2		3	3	2	2	1	1	2	1	2	2	2	2	1	1	2	1	3		42 1.8

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:28:03
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Male
F1 0PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	3	2	2	2
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	7	2	3	3	7	7	7	2	2	2	2	2	7	7	7	7	7	7	7	7	7
	8	9	0	1	5	6	7	5	6	7	8	9	2	3	4	5	6	7	8	9	9
	*TOTALS																				
Transit Epithe, Hyperplasia	2					2														3	2.7
Urethra																			+	2	
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45	
Dilatation																				1	4.0

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

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1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:05

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male F1 2PPB	DAY ON TEST	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			1	1	3	4	5	5	5	5	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
			4	9	8	9	5	9	9	9	0	1	3	3	5	8	9	0	1	3	4	5	5	5	5	5	5	5	5	5	5	6
			6	8	6	2	4	8	7	6	0	7	8	9	0	8	6	4	6	7	3	6	6	6	7	7	7	7	7	8	8	1
Popliteal, Degeneration, Cystic			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Popliteal, Infiltration Cellular, Plasma Cell			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal, Degeneration, Cystic			0	0	0	0	0	1	1	1	1	1	1	1	2	2	2	3	3	3	3	4	4	4	4	4	4	4	5	5	5	6
Renal, Infiltration Cellular, Plasma Cell			0	0	3	5	9	3	3	4	4	5	8	8	0	6	8	0	2	6	8	2	2	2	8	8	8	8	3	3	7	8
Lymph Node, Mandibular			4	5	3	7	0	8	9	0	1	8	3	4	4	3	6	4	4	0	6	7	8	9	2	3	4	5	2	3	9	0
Degeneration, Cystic																																
Hyperplasia, Lymphoid																																
Infiltration Cellular, Plasma Cell																																
Lymph Node, Mesenteric																																
Degeneration, Cystic																																
Hyperplasia, Lymphoid																																
Inflammation, Granulomatous																																
Spleen																																
Depletion Lymphoid																																
Hematopoietic Cell Proliferation																																
Hyperplasia, Lymphoid																																
Infiltration Cellular, Polymorphnuclr																																
Inflammation, Chronic Active																																
Necrosis																																
Pigmentation																																
Thymus																																
Atrophy																																
Epithel Cell, Hyperplasia																																

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 2PPB

DAY ON TEST

ANIMAL ID

0 1 4 6	0 1 9 8	0 3 8 6	0 4 9 2	0 5 5 4	0 5 9 8	0 5 9 7	0 5 9 6	0 6 0 7	0 6 1 8	0 6 3 9	0 6 3 0	0 6 5 8	0 6 8 9	0 7 0 4	0 7 1 6	0 7 3 7	0 7 4 3	0 7 5 6	0 7 5 6	0 7 5 6	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 7 8	0 7 7 8	0 7 7 1
0 0 0 0 4	0 0 0 0 5	0 0 0 3 3	0 0 0 5 7	0 0 0 1 8	0 0 0 3 9	0 0 1 4 4	0 0 1 4 1	0 0 0 4 8	0 0 1 5 3	0 0 0 8 4	0 0 0 8 4	0 0 2 0 4	0 0 6 8 3	0 0 3 2 4	0 0 3 6 0	0 0 3 8 6	0 0 4 2 7	0 0 4 2 8	0 0 4 2 9	0 0 4 4 2	0 0 4 4 3	0 0 4 8 4	0 0 4 8 5	0 0 5 3 3	0 0 5 7 9	0 0 5 8 0	0 0 5 8 3

Integumentary System

Mammary Gland	+	+	+	M	+	+	+	M	+	M	M	+	M	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acinus, Degeneration		1					3								1	3		2		2					2			3	1
Alveolus, Hyperplasia																							3						
Atypical Focus																								X					
Ectasia																											2		
Lactation									1			1					1				2						2		2
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cyst Epithelial Inclusion																											X		
Epidermis, Necrosis																	2												
Hyperkeratosis																													
Inflammation, Chronic Active				4												4	2		3				4		4	4			

Musculoskeletal System

[illegible]

Nervous System

[illegible]

I ..Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:07
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 2PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
ANIMAL ID	2	1	2	2	1	3	2	3	2	2	3	2	2	3	2	2	2	3	1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	3	3	7	7	8	3	3	3	3	3	3	3	8	8	8	8	8	8	8
	3	4	8	9	0	0	1	2	3	4	5	6	0	1	2	3	4	5	6
	*TOTALS																		

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Angiectasis								1											5 1.8
Basophilic Focus													X						3
Bile Duct, Hyperplasia			1				1	1				1					1		9 1.0
Biliar Tract, Fibrosis																			2 1.0
Degeneration, Cystic															1				3 1.0
Eosinophilic Focus	X				X			X					X						5
Hematopoietic Cell Proliferation																			1 2.0
Hepatodiaphragmatic Nodule																			1
Infiltration Cellular, Lymphocyte																	1		3 1.3
Inflammation, Chronic Active				1				1											5 1.2
Necrosis																			1 2.0
Oval Cell, Hyperplasia																			1 2.0
Vacuolization Cytoplasmic															2				4 2.0

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:07
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 2PPB

CD Rat Male F1 2PPB		DAY ON TEST		ANIMAL ID																	*TOTALS	
				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6		
		2	1	2	2	1	3	2	3	2	2	2	2	3	2	2	2	2	3	1		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7		
		3	3	7	7	8	3	3	3	3	3	3	3	3	8	8	8	8	8	8		
		3	4	8	9	0	0	1	2	3	4	5	6	0	1	2	3	4	5	6		
																			1			
Mesentery																			+		1	
Fat, Necrosis																			4		1 4.0	
Oral Mucosa																			2			
Keratin Cyst																			1			
Pancreas		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48	
Acinar Cell, Degeneration			2	3	2	2	3	2	2	2	3	4	2	2	1	2	1	2	2	4	42 2.1	
Salivary Glands		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Stomach, Forestomach		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48	
Edema																			3		1 3.0	
Necrosis																			2		1 2.0	
Stomach, Glandular		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47	
Cyst																			X		1	
Cardiovascular System																						
Blood Vessel		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Heart		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Atrium, Dilatation																			3		3.3	
Cardiomyopathy		2	2					1	1	3	2	1	1	1	1	2	1	2	34 1.5			
Endocrine System																						
Adrenal Cortex		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Accessory Adrenal Cortical Nodule																			X		1	
Angiectasis																			2		2 2.0	
Hyperplasia		2											4						3 2.2			

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:08
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 2PPB

CD Rat Male F1 2PPB		DAY ON TEST																			*TOTALS		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7			
		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			
				2	1	2	2	1	3	2	3	2	2	2	2	3	2	2	2	2	3	1	
		ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6			6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
	3			3	7	7	8	3	3	3	3	3	3	3	8	8	8	8	8	8	8	8	
	3			4	8	9	0	0	1	2	3	4	5	6	0	1	2	3	4	5	6		
Developmental Malformation				X		X				X						X						10	
Lumen, Dilatation																						2 2.5	
Epididymis				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Atrophy																						5 2.6	
Granuloma Sperm																						1 4.0	
Hypospermia																						5 4.0	
Penis																						1	
Preputial Gland				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50		
Abscess																						1 4.0	
Atrophy																						2 2.0	
Duct, Dilatation																						9 2.0	
Infiltration Cellular, Lymphocyte																						17 1.6	
Inflammation, Suppurative				3	2			1		2	3		2			3	3		3		2	2	21 2.4
Prostate, Dorsal/Lateral Lobe																						50	
Atrophy																						1 2.0	
Cyst																						1	
Inflammation, Chronic Active																						2 1.5	
Inflammation, Suppurative				1	2	1	2	1	1	1	2		1	2				2	2	2	2	1	33 1.7
Prostate, Ventral Lobe				+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Atrophy																						1 2.0	
Degeneration																						1 2.0	
Hyperplasia																						4 1.0	
Infiltration Cellular, Lymphocyte																						1 2.0	

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:08
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 2PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2	1	2	2	1	3	2	3	2	2	2	3	2	2	2	2	2	3	1	
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	3	3	7	7	8	3	3	3	3	3	3	3	8	8	8	8	8	8	8	8
	3	4	8	9	0	0	1	2	3	4	5	6	0	1	2	3	4	5	6	
	*TOTALS																			
Inflammation, Chronic Active																				2 2.0
Inflammation, Suppurative																				3 2.3
Rete Testes	+	+	+	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	44
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Atrophy																				4 2.0
Epithelium, Hyperplasia																				1 4.0
Inflammation, Suppurative				1																1 1.0
Lumen, Dilatation	4	2	3																	5 2.8
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Malformation		X																		1
Seminif Tub, Degeneration			4	1		1									2		1	1		19 1.7
Hematopoietic System																				
Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Erythroid Cell, Hyperplasia																				1 2.0
Myeloid Cell, Hyperplasia																				7 2.4
Lymph Node		+	+			+		+	+			+	+			+			+	16
Axillary, Hyperplasia, Lymphoid																				1 2.0
Degeneration, Cystic												4								2 3.5
Lumbar, Degeneration, Cystic		4	4			3		3	3			2	2			3		4		11 3.3
Lumbar, Hyperplasia, Lymphoid								2								3				2 2.5
Lumbar, Infiltration Cellular, Plasma Cell				3				3					3			2				5 2.6
Mediastinal, Infiltration Cellular, Plasma Cell																2				1 2.0

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+ ..Tissue examined microscopically

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Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:08

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male

F1 2PPB

	DAY ON TEST																			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2	1	2	2	1	3	2	3	2	2	2	2	3	2	2	2	2	2	3	1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	3	3	7	7	8	3	3	3	3	3	3	3	3	8	8	8	8	8	8	8
	3	4	8	9	0	0	1	2	3	4	5	6	0	1	2	3	4	5	6	6
	*TOTALS																			
Popliteal, Degeneration, Cystic	2																			
Popliteal, Infiltration Cellular, Plasma Cell	4																			
Renal, Degeneration, Cystic	3																			
Renal, Infiltration Cellular, Plasma Cell	1																			
Lymph Node, Mandibular	+																			
Degeneration, Cystic	3																			
Hyperplasia, Lymphoid	2																			
Infiltration Cellular, Plasma Cell	3																			
Lymph Node, Mesenteric	+																			
Degeneration, Cystic	1																			
Hyperplasia, Lymphoid	1																			
Inflammation, Granulomatous	1																			
Spleen	+																			
Depletion Lymphoid	3																			
Hematopoietic Cell Proliferation	3																			
Hyperplasia, Lymphoid	1																			
Infiltration Cellular, Polymorphnuclr	4																			
Inflammation, Chronic Active	4																			
Necrosis	4																			
Pigmentation	3																			
Thymus	+																			
Atrophy	4																			
Epithel Cell, Hyperplasia	1																			

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1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:08
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 2PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2	1	2	2	1	3	2	3	2	2	2	2	3	2	2	2	2	3	1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	3	3	7	7	8	3	3	3	3	3	3	3	8	8	8	8	8	8	8
	3	4	8	9	0	0	1	2	3	4	5	6	0	1	2	3	4	5	6
	*TOTALS																		

Integumentary System

Mammary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45	
Acinus, Degeneration				4					3	2	4	1			3	4	2	4	1	19	2.4
Alveolus, Hyperplasia			2					1						1						4	1.8
Atypical Focus																				1	
Ectasia	3	3																		3	2.7
Lactation	3	3			2															9	1.9
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Cyst Epithelial Inclusion																				1	
Epidermis, Necrosis																				1	2.0
Hyperkeratosis							3													1	3.0
Inflammation, Chronic Active			4			4		4	4		4		4			4				14	3.8

Musculoskeletal System

Bone, Femur	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Skeletal Muscle																				1	

Nervous System

Brain, Brain Stem	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Compression		2			1			1												7	2.0
Brain, Cerebellum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Brain, Cerebrum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50	
Hydrocephalus																				3	1.0

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:09
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 2PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2	1	2	2	1	3	2	3	2	2	2	2	3	2	2	2	2	3	1
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	3	3	7	7	8	3	3	3	3	3	3	3	8	8	8	8	8	8	8
	3	4	8	9	0	0	1	2	3	4	5	6	0	1	2	3	4	5	6
	*TOTALS																		
Peripheral Nerve	1																		
Spinal Cord	0																		
Respiratory System																			
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Alveolar Epith, Hyperplasia														4					2 2.5
Congestion		4																	1 4.0
Infiltration Cellular, Histiocyte			1	1			1		2	2	1	1		3					18 1.4
Inflammation, Chronic Active																			1 1.0
Metaplasia, Osseous																			1 1.0
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Exudate																			1 2.0
Inflammation, Suppurative	2		2											2					6 1.8
Metaplasia, Squamous			3																1 3.0
Polyp, Inflammatory																			1 4.0
Vomeronas Org, Dilatation																			3 3.3
Trachea	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Special Senses System																			
Eye	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Harderian Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Urinary System																			
Kidney	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49

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+ ..Tissue examined microscopically

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M ..Missing tissue

A ..Autolysis precludes evaluation

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1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:28:09
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Male
F1 2PPB

	DAY ON TEST																			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	2	1	2	2	1	3	2	3	2	2	2	2	3	2	2	2	2	3	1	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
	3	3	7	7	8	3	3	3	3	3	3	3	8	8	8	8	8	8	8	
	3	4	8	9	0	0	1	2	3	4	5	6	0	1	2	3	4	5	6	
	*TOTALS																			
Cyst	X				X				X				X		X			X		18
Nephropathy	4		1	1	1	2	1	2	2	1	1	1	1	1	2	1	2	1	1	41 1.5
Pelvis, Inflammation, Suppurative			2																	2 2.0
Transit Epithe, Hyperplasia			2																	2 2.0
Urethra														+						2
Urinary Bladder	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48

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Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:09

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

0 4 6 7	0 4 9 4	0 5 5 2	0 5 6 2	0 5 6 2	0 6 0 2	0 6 0 2	0 6 1 5	0 6 2 4	0 6 3 2	0 6 3 7	0 6 6 9	0 6 6 8	0 6 9 6	0 7 0 9	0 7 3 7	0 7 3 7	0 7 4 4	0 7 4 6	0 7 5 6	0 7 5 6	0 7 5 6	0 7 5 6	0 7 5 6	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 8
0 0 0 0 4 9	0 0 0 0 5 9	0 0 0 1 8 8	0 0 0 1 3 3	0 0 1 1 4 6	0 0 0 1 4 9	0 0 0 1 4 6	0 0 1 5 6 8	0 0 1 7 2 7	0 0 2 2 3 2	0 0 2 2 3 3	0 0 2 2 6 4	0 0 2 2 8 7	0 0 3 1 5 0	0 0 3 3 6 3	0 0 3 3 8 2	0 0 3 3 9 2	0 0 4 3 3 3	0 0 4 3 3 4	0 0 4 3 3 5	0 0 4 3 3 6	0 0 4 3 3 8	0 0 4 3 3 9	0 0 4 4 8 0	0 0 4 4 8 6	0 0 5 5 9 6	0 0 5 5 3 7	0 0 5 5 3 7	0 0 5 5 3 8	

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperkeratosis			2					2					2														
Intestine Large, Cecum	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
Hyperplasia, Lymphoid																1											
Inflammation, Chronic Active																2											
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	+	+	+	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum	A	+	A	+	+	+	+	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Angiectasis																											
Basophilic Focus						X													X								
Bile Duct, Hyperplasia									1		1		1		1								1				
Biliar Tract, Fibrosis																											
Cyst Multilocular																				X							
Degeneration, Cystic		1																								1	
Eosinophilic Focus									X										X		X						
Focal Cellular Change																											
Hematopoietic Cell Proliferation																						1					
Hepatodiaphragmatic Nodule			X														X	X							X		

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+ ..Tissue examined microscopically

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Insufficient tissue

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1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

[illegible]

Endocrine System

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

[illegible]

General Body System

Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:11

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

[illegible]

Tissue NOS

+

Genital System

Coagulating Gland

Atrophy

Developmental Malformation

Epididymis

Atrophy

HypospERMia

Preputial Gland

Abscess

Atrophy

Duct, Dilatation

Hyperplasia, Basal Cell

Infiltration Cellular, Lymphocyte

Inflammation, Chronic Active

Inflammation, Suppurative

Keratin Cyst

Prostate, Dorsal/Lateral Lobe

Atrophy

Infiltration Cellular, Lymphocyte

Inflammation, Chronic Active

Inflammation, Suppurative

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X ..Lesion present

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Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

[illegible][illegible]

1 ..Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:12

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

0 4 6 7	0 4 9 4	0 5 5 2	0 5 6 2	0 5 9 6	0 6 0 2	0 6 6 5	0 6 6 4	0 6 2 2	0 6 3 3	0 6 6 7	0 6 6 9	0 6 8 8	0 6 9 6	0 7 0 9	0 7 3 7	0 7 3 7	0 7 4 4	0 7 4 4	0 7 5 6	0 7 5 6	0 7 5 6	0 7 5 6	0 7 5 6	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 7	0 7 5 8
0 0 0 0 4 9	0 0 0 0 5 9	0 0 0 1 8 8	0 0 1 3 5	0 0 1 4 6	0 0 1 4 9	0 0 1 5 6	0 0 1 6 8	0 0 1 7 2	0 0 1 7 9	0 0 2 2 3	0 0 2 2 6	0 0 2 3 4	0 0 3 5 7	0 0 3 6 9	0 0 3 6 1	0 0 3 7 3	0 0 4 8 2	0 0 4 8 3	0 0 4 9 4	0 0 4 9 5	0 0 4 9 6	0 0 4 9 7	0 0 4 9 8	0 0 5 9 9	0 0 5 9 0	0 0 5 9 1	0 0 5 9 2	0 0 5 9 3	0 0 5 9 4	

Axillary, Infiltration Cellular, Plasma Cell

Lumbar, Degeneration, Cystic

Lumbar, Hyperplasia, Lymphoid

Lumbar, Infiltration Cellular, Plasma Cell

Mediastinal, Infiltration Cellular, Plasma Cell

Pancreatic, Degeneration, Cystic

Renal, Degeneration, Cystic

Thoracic, Degeneration, Cystic

Lymph Node, Mandibular

Degeneration, Cystic

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Lymph Node, Mesenteric

Degeneration, Cystic

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Inflammation, Granulomatous

Spleen

Capsule, Cyst

Depletion Lymphoid

Hematopoietic Cell Proliferation

Hyperplasia, Lymphoid

Hyperplasia, Stromal

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

[illegible]

Pigmentation

Red Pulp, Hyperplasia

Thymus

Atrophy

Cyst

Epithel Cell, Hyperplasia

Integumentary System

Mammary Gland

Acinus, Degeneration

Alveolus, Hyperplasia

Duct, Dilatation

Duct, Ectasia

Duct, Hyperplasia

Duct, Inflammation, Chronic Active

Ectasia

Lactation

Skin

Abscess

Cyst Epithelial Inclusion

Fibrosis

Foreign Body

Inflammation, Chronic Active

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Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

[illegible]

Musculoskeletal System

Bone, Femur

Skeletal Muscle

Nervous System

Brain, Brain Stem

Compression

Hemorrhage

Brain, Cerebellum

Angiectasis

Brain, Cerebrum

Hydrocephalus

Peripheral Nerve

Spinal Cord

Respiratory System

Lung

Alveolar Epith, Hyperplasia

Infiltration Cellular, Histiocyte

Inflammation, Chronic Active

Metaplasia, Osseous

Nose

Inflammation, Chronic Active

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2) Mild 4) Marked

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CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

[illegible]

Inflammation, Suppurative

Mucosa, Keratin Cyst

Vomeronas Org, Dilatation

Trachea

Special Senses System

Eye

Harderian Gland

Acinus, Degeneration

Degeneration

Infiltration Cellular, Lymphocyte

Urinary System

Kidney

Capsule, Inflammation, Chronic Active

Cyst

Hydronephrosis

Medulla, Cyst

Mineralization

Nephropathy

Pelvis, Inflammation, Suppurative

Polycystic Kidney

Renal Tubule, Hyperplasia

Transit Epithe, Hyperplasia

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+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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BLANK ..Not examined microscopically

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2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST

ANIMAL ID

[illegible]

Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:13
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7
	8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9
	5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6
	*TOTALS																		

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hyperkeratosis																			3 2.0
Intestine Large, Cecum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Hyperplasia, Lymphoid																			1 1.0
Inflammation, Chronic Active																			1 2.0
Intestine Large, Colon	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine Large, Rectum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine Small, Duodenum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Intestine Small, Ileum	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Intestine Small, Jejunum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	46
Liver	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Angiectasis											2								1 2.0
Basophilic Focus																		X	3
Bile Duct, Hyperplasia			2															1	7 1.1
Biliar Tract, Fibrosis											1								1 1.0
Cyst Multilocular																			1
Degeneration, Cystic			2														1	1	5 1.2
Eosinophilic Focus	X	X									X					X	X		8
Focal Cellular Change											X								1
Hematopoietic Cell Proliferation																			1 1.0
Hepatodiaphragmatic Nodule																			4

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 Test Type: SPECIAL STUDY
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 Species/Strain: Rat/CD

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

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

CD Rat Male
F1 10PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7
	8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9
	5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6
	*TOTALS																		
Inflammation, Chronic																			1 1.0
Inflammation, Chronic Active				1		1							1		1				8 1.1
Mixed Cell Focus																			1
Necrosis																			2 2.0
Tension Lipidosis	1																		3 3.0
Vacuolization Cytoplasmic														2			1	1	10 1.4
Mesentery																			2
Fat, Necrosis																			2 3.5
Oral Mucosa																			4
Pancreas	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Acinar Cell, Degeneration	3	2	3	2	2		1	2	2	1		1	1	3	4	3	2	2	40 2.0
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Inflammation, Suppurative																			1 2.0
Stomach, Forestomach	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Keratin Cyst				X															1
Stomach, Glandular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Cardiovascular System																			
Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Cardiomyopathy	1	1	1	1	2	2	1	1	1	1	1	1		2	2	2		1	40 1.4
Endocardium, Hyperplasia																			1 3.0
Endocrine System																			

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CD Rat Male
F1 10PPB

	DAY ON TEST																			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7
	8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9	9
	5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6	6
	*TOTALS																			
Adrenal Cortex	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Accessory Adrenal Cortical Nodule			X				X													2
Angiectasis		2								3										3 2.0
Degeneration, Cystic																				4 1.8
Hyperplasia						1				1	2	2								7 1.7
Hypertrophy																				1 1.0
Vacuolization Cytoplasmic						1			1					2						10 1.6
Adrenal Medulla	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Hyperplasia																				5 1.6
Islets, Pancreatic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Hyperplasia														1			1	1		5 1.0
Parathyroid Gland	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	46
Hyperplasia			2					1			1									6 1.3
Pituitary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Pars Distalis, Cyst						X								X						5
Pars Distalis, Hyperplasia	2		1			2	3	3				2		1					2	12 1.8
Pars Intermed, Hyperplasia										2										1 2.0
Thyroid Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
C Cell, Hyperplasia			1						1				2	1						6 1.2
Cyst, Squamous		X				X		X	X	X		X			X					16
Follicular Cel, Hyperplasia																				1 2.0

General Body System

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1-4 ..Lesion qualified as:

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:15
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7
	8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9
	5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6
	*TOTALS																		
Tissue NOS	1																		
Genital System																			
Coagulating Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Atrophy																			2 3.5
Developmental Malformation	X	X							X			X		X	X				11
Epididymis	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Atrophy									3										5 2.2
Hypospermia									4										6 4.0
Preputial Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Abscess														4					1 4.0
Atrophy		2				2	2		1										5 1.8
Duct, Dilatation			2	2	2									3	3				15 2.5
Hyperplasia, Basal Cell																			1 3.0
Infiltration Cellular, Lymphocyte						2	2		1							2		2	10 1.7
Inflammation, Chronic Active									2										2 2.0
Inflammation, Suppurative			2	2	3									1	3	2			23 2.7
Keratin Cyst																			1
Prostate, Dorsal/Lateral Lobe			+						+										50
Atrophy																			1 3.0
Infiltration Cellular, Lymphocyte																1			1 1.0
Inflammation, Chronic Active		1				2	1												4 1.3
Inflammation, Suppurative	1			2	1			1	1		2	2	2	1	2		2	1	2 39 1.6

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

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

CD Rat Male
F1 10PPB

	DAY ON TEST																			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7
	8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9	9
	5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6	6
	*TOTALS																			
Prostate, Ventral Lobe	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Atrophy																				1 3.0
Hyperplasia													2		1					3 1.3
Infiltration Cellular, Lymphocyte	2														1			1		4 1.3
Inflammation, Chronic Active							4													2 2.5
Inflammation, Suppurative																				6 1.2
Rete Testes	+	+	+	+	+	+	+	+	M	+	+	+	+	+	+	+	+	+	+	46
Dilatation																				2 1.5
Fibrosis																				2 2.5
Seminal Vesicle	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47
Atrophy						1														4 2.3
Lumen, Dilatation			3											2						2 2.5
Testes	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Interstit Cell, Hyperplasia					4															1 4.0
Seminif Tub, Degeneration	2			2	1				4	1		1	1			4				19 2.4
Hematopoietic System																				
Bone Marrow	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Erythroid Cell, Hyperplasia																				1 1.0
Hypocellularity											2									2 3.0
Myeloid Cell, Hyperplasia		2																		8 2.4
Lymph Node	+	+	+	+		+			+				+	+	+		+		+	16
Axillary, Hyperplasia, Lymphoid																			2	1 2.0

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Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:15

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7
	8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9
	5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6
	*TOTALS																		
Axillary, Infiltration Cellular, Plasma Cell	4																		1 4.0
Lumbar, Degeneration, Cystic			4	3		3								3	1				8 2.8
Lumbar, Hyperplasia, Lymphoid														3					2 3.5
Lumbar, Infiltration Cellular, Plasma Cell				4										4		2			7 3.4
Mediastinal, Infiltration Cellular, Plasma Cell														2					1 2.0
Pancreatic, Degeneration, Cystic									3										1 3.0
Renal, Degeneration, Cystic		4	4										4						3 4.0
Thoracic, Degeneration, Cystic	4																		1 4.0
Lymph Node, Mandibular	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Degeneration, Cystic						1						2						1	6 1.8
Hyperplasia, Lymphoid	2	1	2			2	3			2	2	3	2			2	2	1	25 1.9
Infiltration Cellular, Plasma Cell	2		3	3	2	2	2					2	2			2	2	3	37 2.4
Lymph Node, Mesenteric	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Degeneration, Cystic										1									1 1.0
Hyperplasia, Lymphoid										2									1 2.0
Infiltration Cellular, Plasma Cell																			1 2.0
Inflammation, Granulomatous				1	1		2	2	2		2		1						14 1.6
Spleen	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	49
Capsule, Cyst											X								1
Depletion Lymphoid																			1 3.0
Hematopoietic Cell Proliferation	2		1	2		2		1		2	2	2			1				23 2.0
Hyperplasia, Lymphoid																			2 2.5
Hyperplasia, Stromal					4														1 4.0

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

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BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:15
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 10PPB

	DAY ON TEST																			
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7
	8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9	9
	5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6	6
	*TOTALS																			
Pigmentation	1					1	2			2	1			1	2		2			
Red Pulp, Hyperplasia																	4			
Thymus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Atrophy	4	4	3	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4
Cyst																				
Epithel Cell, Hyperplasia																				
Integumentary System																				
Mammary Gland	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acinus, Degeneration			4		3				1	3	1	3			3		4	3	4	2
Alveolus, Hyperplasia													1							
Duct, Dilatation																				
Duct, Ectasia																				
Duct, Hyperplasia							1								1					
Duct, Inflammation, Chronic Active																				
Ectasia												1			1					
Lactation				3								1			2					
Skin	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Abscess																				
Cyst Epithelial Inclusion										X										
Fibrosis													2							
Foreign Body																				
Inflammation, Chronic Active	4	4	4	4	4				4			4	4	4	4			4		

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

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:16
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 Lab: NCTR

CD Rat Male
F1 10PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3
ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7
	8	8	8	3	4	4	4	4	8	8	8	8	8	9	4	4	4	9	9
	5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6
	*TOTALS																		
Musculoskeletal System																			
Bone, Femur	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Skeletal Muscle																			1
Nervous System																			
Brain, Brain Stem	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Compression																			9 2.7
Hemorrhage																			1 1.0
Brain, Cerebellum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Angiectasis															3				1 3.0
Brain, Cerebrum	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Hydrocephalus																			1 2.0
Peripheral Nerve																			1
Spinal Cord																			0
Respiratory System																			
Lung	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48
Alveolar Epith, Hyperplasia															1			4	4 2.0
Infiltration Cellular, Histiocyte								1	1			3		1			1	3	13 1.6
Inflammation, Chronic Active																			2 2.0
Metaplasia, Osseous			1																3 1.0
Nose	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50
Inflammation, Chronic Active																2			1 2.0

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 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

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

Date Report Requested: 10/23/2014
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CD Rat Male
F1 10PPB

CD Rat Male F1 10PPB		DAY ON TEST																						
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7				
		5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6				
		8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3			
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7				
		8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9				
		5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6				
		*TOTALS																						
Inflammation, Suppurative		1										2										7	2.4	
Mucosa, Keratin Cyst																						2		
Vomeronas Org, Dilatation		4										2										3	3.0	
Trachea		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	50				
Special Senses System																								
Eye		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	47				
Harderian Gland		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48				
Acinus, Degeneration																						4	1.3	
Degeneration																						1	3.0	
Infiltration Cellular, Lymphocyte																						1	2.0	
Urinary System																								
Kidney		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	48				
Capsule, Inflammation, Chronic Active												4										1	4.0	
Cyst		X				X	X				X				X	X				21				
Hydronephrosis																						1	1.0	
Medulla, Cyst												X										1		
Mineralization																						1	1.0	
Nephropathy		2	1	2	1	2	2	1	1	1	1	2	2	1	2	1	2	2	1	46	1.7			
Pelvis, Inflammation, Suppurative		2		1																			2	1.5
Polycystic Kidney																						1	4.0	
Renal Tubule, Hyperplasia																						1	1.0	
Transit Epithe, Hyperplasia		2		2																			5	2.4

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CD Rat Male
F1 10PPB

CD Rat Male F1 10PPB		DAY ON TEST																			
		ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
			5	5	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
8	8	8	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3		
Urinary Bladder		ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			5	5	5	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	
			8	8	8	3	4	4	4	4	8	8	8	8	9	4	4	4	9	9	9
			5	6	7	9	0	1	2	3	6	7	8	9	0	3	4	5	4	5	6
		*TOTALS																			
		49																			

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Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:16

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 50PPB

DAY ON TEST

ANIMAL ID

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	2	4	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
3	5	1	0	8	3	4	5	6	8	8	8	0	0	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5
3	8	7	0	5	6	7	3	1	2	5	9	2	3	7	0	6	6	6	6	6	7	7	7	7	7	7	7	7
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	1	1	2	2	2	2	2	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5	5	5
1	1	4	6	2	2	8	9	1	1	5	6	7	0	0	7	0	4	4	4	4	9	9	9	9	0	4	4	4
2	6	2	2	2	2	8	1	8	9	1	1	1	5	3	2	1	2	3	4	5	6	7	8	9	0	2	3	4

Alimentary System

Esophagus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hyperkeratosis		2									1			1														
Intestine Large, Cecum	A	A	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Dilatation														3														
Intestine Large, Colon	A	A	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Large, Rectum	A	A	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Duodenum	A	A	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Ileum	A	A	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Intestine Small, Jejunum	A	A	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Liver	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Angiectasis																				2							1	
Basophilic Focus					X		X	X								X					X			X			X	
Biliar Tract, Fibrosis																												
Clear Cell Focus												X																
Degeneration, Cystic					1									1														
Eosinophilic Focus																X			X		X						X	X
Hematopoietic Cell Proliferation																												
Hepatodiaphragmatic Nodule											X												X				X	X
Infiltration Cellular, Lymphocyte																		1										
Inflammation, Chronic Active											1	1				1			2									
Mixed Cell Focus																												

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 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:28:18
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Male
F1 50PPB

DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANIMAL ID	2	2	4	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	3	5	1	0	8	3	4	5	6	8	8	8	0	0	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	3	8	7	0	5	6	7	3	1	2	5	9	2	3	7	0	6	6	6	6	6	7	7	7	7	7	7	7	7	7
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	1	1	1	2	2	2	2	2	3	3	3	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5
	1	1	4	6	2	8	9	1	1	5	6	7	0	0	7	0	4	4	4	4	4	9	9	9	9	0	4	4	4	4
	2	6	2	2	2	2	8	1	8	9	1	1	1	5	3	2	1	2	3	4	4	5	6	7	8	9	0	2	3	4
Necrosis																														
Tension Lipidosis																														
Vacuolization Cytoplasmic																														
Mesentery																														
Fat, Necrosis																														
Oral Mucosa																														
Keratin Cyst																														
Pancreas	A	+	+	+	+	+	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acinar Cell, Degeneration																														
Basophilic Focus																														
Salivary Glands	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Acinus, Degeneration																														
Duct, Dilatation																														
Inflammation, Chronic Active																														
Stomach, Forestomach	A	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Stomach, Glandular	A	A	+	+	+	A	+	+	+	+	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Edema																														
Epithelium, Hyperplasia																														
Cardiovascular System																														
Blood Vessel	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Heart	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cardiomyopathy	1		1	2	1	2				1		1		1	1		1	1	1	2	1	2	2	2	1	1	2	1		

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CD Rat Male
F1 50PPB

DAY ON TEST

ANIMAL ID

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	2	4	5	5	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
3	5	1	0	8	3	4	5	6	8	8	8	0	0	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
3	8	7	0	5	6	7	3	1	2	5	9	2	3	7	0	6	6	6	6	6	7	7	7	7	7	7	7	7	7
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	1	1	2	2	2	2	2	3	3	3	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5
1	1	4	6	2	2	8	9	1	1	5	6	7	0	0	7	0	4	4	4	4	9	9	9	9	0	4	4	4	4
2	6	2	2	2	2	8	1	8	9	1	1	1	5	3	2	1	2	3	4	5	6	7	8	9	0	2	3	4	5

Inflammation, Suppurative

3

Endocrine System

Adrenal Cortex

+ +

Accessory Adrenal Cortical Nodule

X

Angiectasis

Atrophy

4

Cyst

4

Degeneration, Cystic

4

2

2

Hyperplasia

2

2

1

Hypertrophy

2

1

2

Pigmentation

4

Vacuolization Cytoplasmic

2

1

2

1

Adrenal Medulla

+ + + + + + + + + + + + + + + + + + M + + + + + + + + + +

Hyperplasia

3

2

2

1

2

1

2

2

Islets, Pancreatic

A +

Hyperplasia

1

1

1

1

1

Parathyroid Gland

+ + + + + + + + + + I + + + + + M + + + M + + + + + + + + + +

Hyperplasia

2

2

2

2

Pituitary Gland

+ +

Pars Distalis, Cyst

X

X

X

X

Pars Distalis, Hyperplasia

2

4

1

3

1

2

2

2

2

1

3

2

Pars Intermed, Cyst

X

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:18

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 50PPB

| DAY ON TEST | 0 |
|-----------------------------------|
| ANIMAL ID | 2 | 2 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 5 | 1 | 0 | 8 | 3 | 4 | 5 | 6 | 8 | 8 | 8 | 0 | 0 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 3 | 8 | 7 | 0 | 5 | 6 | 7 | 3 | 1 | 2 | 5 | 9 | 2 | 3 | 7 | 0 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 0 |
| | 0 |
| | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 1 | 1 | 4 | 6 | 2 | 8 | 9 | 1 | 1 | 5 | 6 | 7 | 0 | 0 | 7 | 0 | 4 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 0 | 4 | 4 | 4 | 4 | 4 |
| | 2 | 6 | 2 | 2 | 2 | 2 | 8 | 1 | 8 | 9 | 1 | 1 | 5 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 2 | 3 | 4 | 5 | 6 | 6 |
| Thyroid Gland | A | + |
| C Cell, Hyperplasia | | | | 1 | | | 1 | | | | | 1 | | 1 | | | 1 | | | | | | | | 2 | 2 | | | 3 | | |
| Cyst, Squamous | X | | | | | | X | | | | X |
| General Body System |
| NONE |
| Genital System |
| Coagulating Gland | + | + | + | + | + | A | + |
| Atrophy | | | | | | | | | | | | 3 | | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic |
| Developmental Malformation | | | | X | X | | | | | | | | | | | | | | | X | | X | | | | X | | | | | X |
| Inflammation, Suppurative | | 4 | |
| Lumen, Dilatation | 1 | | | | | | | | | | |
| Epididymis | + |
| Atrophy |
| Hypospermia | 4 | | | |
| Preputial Gland | + |
| Abscess | 4 | | | | |
| Atrophy | | | | | 2 | 3 | | | | | 2 | |
| Duct, Dilatation | | | | 2 | | | | 4 | 2 | 2 | | | | | 2 | | | | | | | | 2 | | | | | | | 4 | |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | 2 | | | | | | 1 | 1 | 1 | 1 | | 1 | | | | 2 | | | | | |
| Inflammation, Chronic Active | | | | | 2 | | 1 | | |
| Inflammation, Suppurative | | 2 | 2 | 3 | 4 | | | | 4 | 2 | 3 | | | 2 | | 4 | | | | | 1 | | 3 | | 2 | | | 4 | | 4 | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:19
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Male
 F1 50PPB**

| CD Rat Male
F1 50PPB | | DAY ON TEST | |
|-----------------------------------|--|-------------|
| | | 0 | 0 | |
| | | 2 | 2 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 3 | 5 | 1 | 0 | 8 | 3 | 4 | 5 | 6 | 8 | 8 | 8 | 0 | 0 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | | 3 | 8 | 7 | 0 | 5 | 6 | 7 | 3 | 1 | 2 | 5 | 9 | 2 | 3 | 7 | 0 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| ANIMAL ID | | 0 | 0 | |
| | | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | |
| | | 1 | 1 | 4 | 6 | 2 | 8 | 9 | 1 | 1 | 5 | 6 | 7 | 0 | 0 | 7 | 0 | 4 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 0 | 4 | 4 | 4 | 4 |
| | | 2 | 6 | 2 | 2 | 2 | 2 | 8 | 1 | 8 | 9 | 1 | 1 | 1 | 5 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 2 | 3 | 4 | 5 |
| Prostate, Dorsal/Lateral Lobe | | + | | | | + | | | | | | | | + | | | | + | | | | | | + | | | | | | | |
| Inflammation, Chronic Active | | |
| Inflammation, Suppurative | | |
| Prostate, Ventral Lobe | | |
| Hyperplasia | | |
| Infiltration Cellular, Lymphocyte | | |
| Inflammation, Chronic Active | | |
| Inflammation, Suppurative | | |
| Rete Testes | | |
| Dilatation | | |
| Fibrosis | | |
| Seminal Vesicle | | |
| Atrophy | | |
| Inflammation, Suppurative | | |
| Lumen, Dilatation | | |
| Testes | | |
| Seminif Tub, Degeneration | | |
| Hematopoietic System | | |
| Bone Marrow | | |
| Erythroid Cell, Hyperplasia | | |
| Hypocellularity | | |
| Myeloid Cell, Hyperplasia | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:19

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1 50PPB

DAY ON TEST

ANIMAL ID

| |
|---|
| 0 |
| 2 | 2 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 3 | 5 | 1 | 0 | 8 | 3 | 4 | 5 | 6 | 8 | 8 | 8 | 0 | 0 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 3 | 8 | 7 | 0 | 5 | 6 | 7 | 3 | 1 | 2 | 5 | 9 | 2 | 3 | 7 | 0 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 0 |
| 0 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| 1 | 1 | 4 | 6 | 2 | 8 | 9 | 1 | 1 | 5 | 6 | 7 | 0 | 0 | 7 | 0 | 4 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 0 | 4 | 4 | 4 | 4 |
| 2 | 6 | 2 | 2 | 2 | 2 | 2 | 8 | 1 | 8 | 9 | 1 | 1 | 1 | 3 | 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 2 | 3 | 4 | 5 |

| | |
|---|---|
| Lymph Node |
| Axillary, Hyperplasia, Lymphoid |
| Axillary, Infiltration Cellular, Plasma Cell | |
| Inguinal, Hyperplasia, Lymphoid |
| Inguinal, Infiltration Cellular, Plasma Cell | |
| Lumbar, Degeneration, Cystic |
| Lumbar, Hyperplasia, Lymphoid |
| Lumbar, Infiltration Cellular, Plasma Cell |
| Popliteal, Infiltration Cellular, Plasma Cell | |
| Renal, Degeneration, Cystic |
| Renal, Hyperplasia, Lymphoid |
| Renal, Infiltration Cellular, Plasma Cell |
| Lymph Node, Mandibular | A | A | + |
| Degeneration, Cystic | | | | | 2 | | | 2 | | | 3 | | 2 | | | | | | | | 1 | | | | | | | | | |
| Hyperplasia, Lymphoid | | | 3 | | | | | | 2 | | 2 | 2 | | | | | 2 | | | 3 | 2 | 2 | | 1 | 2 | | 2 | 2 | 2 | 2 |
| Infiltration Cellular, Plasma Cell | | | | 3 | 4 | | | 2 | | | 2 | 3 | | 3 | | | 2 | 3 | 1 | | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 2 | | 2 |
| Lymph Node, Mesenteric | A | A | + | + | + | A | + |
| Hyperplasia, Lymphoid | | | | 2 | |
| Inflammation, Granulomatous | | | | | | | | | | | 2 | | | 2 | | | | | | | 1 | | | | 1 | | 1 | 2 | | |
| Spleen | A | + |
| Depletion Lymphoid | | | 4 | |
| Hematopoietic Cell Proliferation | | | | | | | | | | 3 | | 1 | | 3 | | 2 | | 1 | 2 | 1 | | | 1 | | 1 | | 1 | | 1 | 1 |
| Hyperplasia, Stromal | | | | | | 4 | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:21
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 50PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 0 | 0 | 4 | 4 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 4 | 5 | 0 | 0 |
| | 4 | 5 | 6 | 7 | 4 | 6 | 8 | 9 | 0 | 1 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperkeratosis | | | | | | | | | | | | | | | | | | | 3 1.3 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Dilatation | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Angiectasis | | | 2 | | | | 2 | | | | | | | | | | | | 4 1.8 |
| Basophilic Focus | | | X | X | | X | X | X | | X | X | | | | X | | X | X | 17 |
| Biliar Tract, Fibrosis | | | | | | | 1 | | | | | | | | | | | | 1 1.0 |
| Clear Cell Focus | | | | | | | | | | | | | | | | | | | 1 |
| Degeneration, Cystic | | | | | | | | 1 | | 1 | 1 | | 1 | 2 | 1 | | | | 8 1.1 |
| Eosinophilic Focus | | X | X | X | | | X | X | | | | | X | X | X | X | | X | 15 |
| Hematopoietic Cell Proliferation | | | 2 | | | | | | | | | 1 | | | | | | 1 | 3 1.3 |
| Hepatodiaphragmatic Nodule | | | | | | | | X | X | | | | | | | | | | 6 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Chronic Active | | | | | | 1 | | | | 1 | | | | 1 | | | 1 | 1 | 9 1.1 |
| Mixed Cell Focus | | | | | | | | | | | X | | | | | | | | 1 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:22
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 50PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 0 | 0 | 4 | 4 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 4 | 5 | 0 | 0 |
| | 4 | 5 | 6 | 7 | 4 | 6 | 8 | 9 | 0 | 1 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 | 1 |
| *TOTALS | | | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | |
| Endocrine System | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | |
| Angiectasis | 2 2 1 | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | |
| Cyst | | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | 2 | | | | | | | | | | | | | | | | | | |
| Hyperplasia | 1 1 2 | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | |
| Pigmentation | | | | | | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | 1 1 2 1 1 1 1 | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | |
| Hyperplasia | 1 1 1 2 3 | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | |
| Hyperplasia | 1 1 | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + + + + + + + + + + + M + + + + + + + | | | | | | | | | | | | | | | | | | |
| Hyperplasia | 3 1 1 2 2 | | | | | | | | | | | | | | | | | | |
| Pituitary Gland | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Cyst | X X | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | 4 1 3 1 2 | | | | | | | | | | | | | | | | | | |
| Pars Intermed, Cyst | | | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:22
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 50PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 0 | 0 | 4 | 4 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 4 | 5 | 0 | 0 | 0 |
| | 4 | 5 | 6 | 7 | 4 | 6 | 8 | 9 | 0 | 1 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 | 1 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| C Cell, Hyperplasia | 2 | | | | | | | | | | | | | | | | | 1 | | 10 1.5 |
| Cyst, Squamous | X | X | X | | | | | | | | | | | | | X | X | | | 8 |
| General Body System | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | |
| Genital System | | | | | | | | | | | | | | | | | | | | |
| Coagulating Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Atrophy | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Degeneration, Cystic | | | | | | 3 | | | | | | | | | | | | | | 1 3.0 |
| Developmental Malformation | X | X | | | | | X | | | | X | X | | X | X | X | | | | 14 |
| Inflammation, Suppurative | | | | | | 2 | | | | | | | | | | | | | | 2 3.0 |
| Lumen, Dilatation | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | | | | | | | | | | 3 | 2 | | | | | | | | | 2 2.5 |
| Hypospermia | | | | | | | | | | 4 | 4 | | | | | | | | | 3 4.0 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Abscess | 4 | | | | | | | | | | | | | | | | | | | 2 4.0 |
| Atrophy | | | | | | 3 | | | | | | | | | | | | | | 4 2.5 |
| Duct, Dilatation | | | | 2 | | 2 | | 2 | 3 | | | 2 | | | 2 | | | | 3 | 14 2.4 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | 2 | 1 | | | | | | 1 | | | 10 1.3 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | 2 1.5 |
| Inflammation, Suppurative | | 2 | | 2 | | 3 | 2 | 1 | 4 | | | 1 | 2 | | 1 | | 3 | 3 | | 25 2.6 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:23
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 50PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 0 | 0 | 4 | 4 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 4 | 5 | 0 | 0 | 0 |
| | 4 | 5 | 6 | 7 | 4 | 6 | 8 | 9 | 0 | 1 | 5 | 6 | 7 | 8 | 9 | 9 | 9 | 0 | 1 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Lymph Node | + | + | | | | | + | | | | | | + | | + | | | + | | 15 |
| Axillary, Hyperplasia, Lymphoid | 3 | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Axillary, Infiltration Cellular, Plasma Cell | 3 | | | | | | 3 | | | | | | | | | | | | | 2 3.0 |
| Inguinal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Inguinal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | 2 4.0 |
| Lumbar, Degeneration, Cystic | 4 | 2 | | | | | | | | | | | 2 | | 2 | | | | | 9 3.0 |
| Lumbar, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lumbar, Infiltration Cellular, Plasma Cell | 4 | 3 | | | | | 3 | | | | | | | | | | | | | 5 3.4 |
| Popliteal, Infiltration Cellular, Plasma Cell | 4 | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Renal, Degeneration, Cystic | 2 | | | | | | | | | | | | | | | | | 4 | | 3 2.7 |
| Renal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Renal, Infiltration Cellular, Plasma Cell | 3 | | | | | | | | | | | | | | | | | | | 2 3.5 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Degeneration, Cystic | | | 2 | | | | 3 | | | | | 3 | | 2 | | 2 | | | | 11 2.2 |
| Hyperplasia, Lymphoid | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 2 | | 2 | 2 | 2 | 1 | 2 | 2 | | | 2 | 3 | 29 2.1 |
| Infiltration Cellular, Plasma Cell | 2 | 2 | | | | 3 | 2 | 2 | 3 | 2 | 3 | 3 | | 2 | 2 | | 1 | 3 | 4 | 32 2.4 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | 2 | 2 | | | | | 3 2.0 |
| Inflammation, Granulomatous | | | | | | 3 | | | | | | 1 | 1 | | | | | | | 9 1.6 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Depletion Lymphoid | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Hematopoietic Cell Proliferation | 2 | | | 2 | | 2 | 1 | | | | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 24 1.5 |
| Hyperplasia, Stromal | | | | | | | | | | 4 | | | | | | | | | | 2 4.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:23
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 50PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 0 | 0 | 4 | 4 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 4 | 5 | 0 | 0 |
| | 4 | 5 | 6 | 7 | 4 | 6 | 8 | 9 | 0 | 1 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Bone, Femur | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | 2 |
| Nervous System | | | | | | | | | | | | | | | | | | | |
| Brain, Brain Stem | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Compression | 1 | | | | 4 | | | | | | | | | | | | | | 4 2.3 |
| Brain, Cerebellum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Brain, Cerebrum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hydrocephalus | | | | | 2 | | | | | | | | | | | | | | 1 2.0 |
| Infiltration Cellular | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | 2 |
| Spinal Cord | | | | | | | | | | | | | | | | | | | 0 |
| Respiratory System | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Alveolar Epith, Hyperplasia | | | | | | | | | | | | | | | | 3 | | | 3 1.7 |
| Artery, Mineralization | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Infiltration Cellular, Histiocyte | | | | | | | 1 | | 2 | | | | 1 | | 1 | 3 | | | 11 1.5 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | 2 | | 1 2.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Metaplasia, Osseous | | | | | | | | | | | | | | | | 1 | | | 1 1.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Foreign Body | | | | | | | | X | | | | | | | | | | | 1 |
| Inflammation, Suppurative | | 1 | | | | 4 | | 3 | | | | | | | | | 1 | | 7 2.4 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:24
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 50PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 0 | 0 | 4 | 4 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 4 | 5 | 0 | 0 |
| | 4 | 5 | 6 | 7 | 4 | | | | 1 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 | 1 | |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Mucosa, Keratin Cyst | X | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | |
| Special Senses System | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Bilateral, Retina, Degeneration | | | | | | | | | | | | | | | | | 4 | | |
| Cataract | | | | | | | | | | | | | | | X | | | | |
| Cornea, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | 4 | | | |
| Inflammation, Suppurative | | | | | | 4 | | | | | | | | | | | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Acinus, Degeneration | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Lymphocyte | | | | | 1 | | | | | | | | | | | | | | |
| Lacrimal Gland | | | | | | | | | | | | | | | | | | | |
| Ectopic Harderian | | | | | | | | | | | | | | | | | | | |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | |
| Urinary System | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | X | X | | X | | | X | X | | | X | | | | X | X | | | |
| Mineralization | | 1 | | | | | | | | | | 2 | | | | | | | |
| Nephropathy | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 3 | 1 | 3 | 2 | 2 | 1 | 1 | 2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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1) Minimal 3) Moderate

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:24
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1 50PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 0 | 0 | 4 | 4 | 5 | 5 | 9 | 9 | 9 | 9 | 9 | 4 | 5 | 0 | 0 |
| | 4 | 5 | 6 | 7 | 4 | 6 | 8 | 9 | 0 | 1 | 5 | 6 | 7 | 8 | 9 | 9 | 0 | 0 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Pelvis, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | |
| Renal Tubule, Hyperplasia | | | | | | | | | | | | | | | | | | | |
| Urethra | | | | | | | | | | | | | | | | | | | |
| Urinary Bladder | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | |
| Transit Epithe, Hyperplasia | | | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:25

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
4
8
5 | 0
5
1
0 | 0
5
3
4 | 0
5
4
9 | 0
5
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9 | 0
6
0
3 | 0
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9 | 0
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3 | 0
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2 | 0
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5 | 0
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3
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2 | 0
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7
4 | 0
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3 | 0
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4
8
1 | 0
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6 | 0
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3 | 0
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4
4 | 0
0
5
5
7 | 0
0
5
6
4 | 0
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5
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1 | 0
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2 | 0
0
5
8
3 | 0
0
6
3
5 | 0
0
6
3
6 | 0
0
6
3
7 |

Infiltration Cellular, Lymphocyte

Inflammation, Chronic Active

Mixed Cell Focus

Necrosis

Vacuolization Cytoplasmic

Mesentery

Fat, Necrosis

Oral Mucosa

Keratin Cyst

Pancreas

Acinar Cell, Degeneration

Salivary Glands

Acinus, Degeneration

Stomach, Forestomach

Edema

Epithelium, Hyperplasia

Hyperplasia, Basal Cell

Inflammation, Suppurative

Ulcer

Stomach, Glandular

Edema

Cardiovascular System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:28:25
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| CD Rat Male
F1/2PPB TO CTL | DAY ON TEST | 0 | |
|-----------------------------------|-------------|
| | | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 8 | 1 | 3 | 4 | 6 | 0 | 1 | 1 | 2 | 4 | 4 | 5 | 8 | 9 | 1 | 2 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | |
| | | 5 | 0 | 4 | 9 | 9 | 3 | 0 | 9 | 3 | 2 | 6 | 6 | 1 | 5 | 9 | 5 | 7 | 6 | 7 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 2 |
| | ANIMAL ID | 0 |
| | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | 5 | 6 | 7 | 8 | 0 | 5 | 5 | 6 | 6 | 8 | 9 | 1 | 5 | 8 | 2 | 4 | 6 | 7 | 8 | 3 | 3 | 8 | 8 | 3 | 3 | 8 | 8 | 8 | 3 | 3 | |
| | 5 | 8 | 9 | 7 | 7 | 0 | 3 | 0 | 7 | 7 | 7 | 5 | 5 | 5 | 6 | 0 | 2 | 2 | 9 | 0 | 1 | 6 | 7 | 4 | 5 | 1 | 2 | 3 | 5 | 6 | |
| Blood Vessel | + | + | |
| Heart | + | + | |
| Atrium, Dilatation | | | | | 3 | | | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| Atrium, Thrombosis | |
| Cardiomyopathy | 2 | | 1 | 1 | 3 | 1 | 1 | | 2 | 4 | 2 | 1 | 2 | 2 | 1 | | | 1 | 3 | | 1 | 2 | | 1 | 1 | 1 | 2 | 3 | 2 | 2 | 1 |
| Inflammation, Suppurative | | | | | 2 | |
| Metaplasia, Osseous | |
| Ventricle, Dilatation | |
| Endocrine System | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | |
| Angiectasis | | 2 | | | | | | | | | | |
| Atrophy | |
| Degeneration, Cystic | | 1 | | | | | | | | | | | 2 | | | | 2 | | | | | | | | | | | 1 | | | |
| Hyperplasia | | 1 | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | 1 | | | | |
| Vacuolization Cytoplasmic | | | | | | 2 | 1 | | 1 | | | | | | | | | | | | | | 1 | 1 | | | 1 | | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | |
| Atrophy | |
| Hyperplasia | | | | | | | | | | | 1 | | | | 1 | 1 | | 1 | | | | | | 1 | | 1 | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | M | + | |
| Hyperplasia | | 1 | 1 | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | 1 | | 1 | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:26

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

DAY ON TEST

ANIMAL ID

| | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|------------------|
| 0
4
8
5 | 0
5
1
0 | 0
5
3
4 | 0
5
4
9 | 0
5
6
9 | 0
6
0
3 | 0
6
1
9 | 0
6
2
3 | 0
6
4
2 | 0
6
6
6 | 0
6
4
1 | 0
6
5
6 | 0
6
8
1 | 0
7
9
5 | 0
7
2
5 | 0
7
3
7 | 0
7
3
6 | 0
7
4
6 | 0
7
5
6 | 0
7
5
6 | 0
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7 | 0
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7 | 0
7
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7 | 0
7
5
8 | 0
7
5
8 | 0
7
5
8 | 0
7
6
2 | 0
7
6
2 | 0
7
7
1 |
| 0
0
0
5
5 | 0
0
0
6
8 | 0
0
0
7
9 | 0
0
0
8
7 | 0
0
1
0
5
7 | 0
0
1
1
0
3 | 0
0
1
1
5
6 | 0
0
1
1
6
7 | 0
0
2
2
8
7 | 0
0
0
0
6
7 | 0
0
2
2
9
5 | 0
0
2
2
5
5 | 0
0
2
2
8
5 | 0
0
3
3
4
6 | 0
0
3
3
7
0 | 0
0
3
3
8
2 | 0
0
3
3
9
2 | 0
0
4
4
0
6 | 0
0
4
3
3
0 | 0
0
4
8
1
6 | 0
0
4
8
3
7 | 0
0
5
3
3
4 | 0
0
5
8
8
1 | 0
0
5
3
8
2 | 0
0
5
8
3
3 | 0
0
6
3
5
3 | 0
0
6
3
3
6 | | |

Parathyroid Gland

Hyperplasia

Pituitary Gland

Pars Distalis, Cyst

Pars Distalis, Hyperplasia

Pars Intermed, Cyst

Thyroid Gland

C Cell, Hyperplasia

Cyst, Squamous

Infiltration Cellular, Lymphocyte

General Body System

Tissue NOS

Genital System

Coagulating Gland

Atrophy

Developmental Malformation

Hemorrhage

Epididymis

Atrophy

Hyperplasia

HypospERMia

Infiltration Cellular, Lymphocyte

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

DAY ON TEST

ANIMAL ID

| | |
|-----------------------|------------------|
| 0
4
8
5 | 0
5
1
0 | 0
5
3
4 | 0
5
4
9 | 0
5
6
9 | 0
6
0
3 | 0
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9 | 0
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3 | 0
6
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2 | 0
6
4
2 | 0
6
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7
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9 | 0
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5 | 0
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5 | 0
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3
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5 | 0
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3
4
6 | 0
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3
6
2 | 0
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3
7
9 | 0
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3
8
0 | 0
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4
8
1 | 0
0
4
8
6 | 0
0
5
3
3 | 0
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4 | 0
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7 | 0
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3
8 | 0
0
5
3
1 | 0
0
5
3
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3
3 | 0
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6
3
5 | 0
0
6
3
6 | |

[illegible]

1 ..Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:27

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

Alveolus, Hyperplasia

Ectasia

Lactation

Skin

Cyst Epithelial Inclusion

Dermis, Fibrosis

Dermis, Inflammation, Chronic Active

Dermis, Necrosis

Hyperkeratosis

Inflammation, Chronic Active

Inflammation, Pyogranulomat

Inflammation, Suppurative

Musculoskeletal System

Bone, Femur

Skeletal Muscle

Nervous System

Brain, Brain Stem

Compression

Hemorrhage

Brain, Cerebellum

Hydrocephalus

Brain, Cerebrum

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:28:29
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| | DAY ON TEST | |
|-----------------------------------|-------------|
| | 0 | 0 |
| | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 1 | 3 | 4 | 6 | 0 | 1 | 1 | 2 | 4 | 4 | 5 | 8 | 9 | 1 | 2 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 |
| | 5 | 0 | 4 | 9 | 9 | 3 | 0 | 9 | 3 | 2 | 6 | 6 | 1 | 5 | 9 | 5 | 7 | 6 | 7 | 6 | 6 | 7 | 7 | 8 | 8 | 8 | 2 | 2 |
| ANIMAL ID | 0 | 0 |
| | 0 | 0 |
| | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 |
| | 5 | 6 | 7 | 8 | 0 | 5 | 5 | 6 | 6 | 8 | 9 | 1 | 5 | 8 | 2 | 4 | 6 | 7 | 8 | 3 | 3 | 8 | 8 | 3 | 3 | 8 | 8 | 3 |
| | 5 | 8 | 9 | 7 | 7 | 0 | 3 | 0 | 7 | 7 | 5 | 5 | 5 | 5 | 6 | 0 | 2 | 2 | 9 | 0 | 1 | 6 | 7 | 4 | 5 | 1 | 2 | 3 |
| Harderian Gland | + | + |
| Acinus, Degeneration | |
| Infiltration Cellular, Lymphocyte | |
| Zymbal's Gland | |
| Inflammation, Suppurative | |
| Urinary System | |
| Kidney | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | X | | | | | X | | X | | X | | X | | | X | | X | | X | | | | X | | X | X | X |
| Hydronephrosis | |
| Inflammation, Suppurative | |
| Medulla, Cyst | |
| Mineralization | |
| Nephropathy | 1 | 1 | 3 | 2 | 4 | 1 | 1 | | 1 | | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 3 | 4 |
| Pelvis, Hemorrhage | |
| Pelvis, Inflammation, Suppurative | |
| Polycystic Kidney | |
| Renal Tubule, Hyperplasia | |
| Transit Epithe, Hyperplasia | |
| Urethra | |
| Hemorrhage | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Dilatation | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

DAY ON TEST

ANIMAL ID

| | | | |
|-----------------------|------------------|------------------|------------------|
| 0
4
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8 | 0
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8
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0
6
3
5 | 0
0
6
3
5 | 0
0
6
3
6 | 0
0
6
3
7 | | | |

Hemorrhage

3

Inflammation, Chronic Active

2

Inflammation, Suppurative

3

Transit Epithe, Hyperplasia

2

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

M ..Missing tissue

X ..Lesion present

A ..Autolysis precludes evaluation

Insufficient tissue

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:29
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 9 | 0 | 1 | 2 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperkeratosis | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Dilatation | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Dilatation | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Dilatation | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Dilatation | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Dilatation | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Basophilic Focus | | | | | | X | | | | | | | | | | | | | 3 |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | 3 1.0 |
| Biliar Tract, Fibrosis | | | | | | | | | | 1 | | | | | 1 | 1 | 1 | | 6 1.0 |
| Capsule, Fibrosis | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Degeneration, Cystic | | | | | 1 | | 1 | | | | | 1 | | | | | | | 9 1.1 |
| Eosinophilic Focus | | | X | | | | | | | | | | X | X | | | X | | 11 |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | X | | | | | | | 2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:30
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 8 | 9 | 0 | 1 | 2 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrium, Dilatation | | | | | | | | | | | | | | | | | | | | 2 2.5 |
| Atrium, Thrombosis | | | | | | | 4 | | | | | | | | | | | | | 1 4.0 |
| Cardiomyopathy | 1 | 2 | 1 | | 1 | 2 | 2 | 2 | 2 | 2 | | 1 | 2 | 2 | | 1 | | 2 | 1 | 40 1.7 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Metaplasia, Osseous | | | | | | | 2 | | | | | | | | | | | | | 1 2.0 |
| Ventricle, Dilatation | | | | | | | 4 | | | | | | | | | | | | | 1 4.0 |
| Endocrine System | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Accessory Adrenal Cortical Nodule | | | | | | | X | | | | | | | | | | | | | 2 |
| Angiectasis | 2 | | 2 | | | | | | | | | | | | | | | | 1 | 4 1.8 |
| Atrophy | | | | | | | 3 | | | | | | | | | | | | | 1 3.0 |
| Degeneration, Cystic | | | | | | | | 1 | | | | | | | | | | 1 | | 6 1.3 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Hypertrophy | | | | | | | 3 | | | | | | 2 | | | | | | | 4 2.0 |
| Vacuolization Cytoplasmic | | | | | | | | | | 1 | 1 | | 2 | | 2 | | 2 | | | 11 1.4 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Atrophy | | | | | | | 3 | | | | | | | | | | | | | 1 3.0 |
| Hyperplasia | 1 | | | 1 | | 1 | | 1 | | | | 1 | 2 | | | | | | | 12 1.1 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Hyperplasia | | 1 | 1 | | | | | | | 1 | 1 | | | | | | | | | 10 1.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:30
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Male
 F1/2PPB TO CTL**

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 8 | 9 | 0 | 1 | 2 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | 2 | | | | 1 | | | 2 | | | | | | | 8 2.1 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Cyst | | | | X | X | | | | X | | | | | | | | | | | 6 |
| Pars Distalis, Hyperplasia | | | | | 1 | 1 | | | | | 2 | | | | 3 | | 2 | 1 | | 8 2.0 |
| Pars Intermed, Cyst | | | | | | | | | | | | | | | | | | | | 1 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Cyst, Squamous | | | | | | X | X | | | X | | X | | | | | X | | | 11 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| General Body System | | | | | | | | | | | | | | | | | | | | |
| Tissue NOS | | | | | | | | | | | | | | | | | | | | 1 |
| Genital System | | | | | | | | | | | | | | | | | | | | |
| Coagulating Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Atrophy | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Developmental Malformation | | | | X | | X | | | X | | | | X | | X | | | | | 14 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | 2 | | | | | | | | | | | | | | | | | | | 4 2.3 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Hypospermia | 4 | | | | | | | 2 | | | | | | | | | | | | 4 3.5 |
| Infiltration Cellular, Lymphocyte | | | | | | | 1 | | | | | | | | | | | | | 1 1.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

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BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:31
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 9 | 0 | 1 | 2 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Penis | | | | | | | | | | | | | | | | | | | 1 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | | | | | | | | | | | | | | | | | | | 6 1.7 |
| Cyst | | | | | | | | | | | | | | | | | | | 1 |
| Duct, Dilatation | | 3 | 3 | | 2 | | 3 | 4 | | | | | | | | | 2 | 3 | 12 2.8 |
| Infiltration Cellular, Lymphocyte | 1 | | | 1 | | 1 | | | | 1 | | | | | | | | | 9 1.2 |
| Inflammation, Chronic Active | | | | | | | | | | | 1 | | | | | | | | 2 1.5 |
| Inflammation, Suppurative | | 4 | 3 | | 3 | | 2 | 4 | 1 | | | 2 | 1 | | | 2 | 3 | 3 | 25 2.6 |
| Prostate, Dorsal/Lateral Lobe | | | | + | | | + | + | | + | + | + | + | | | | + | | 50 |
| Cyst | | | | | | | | | | | | | | | | | | | 1 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Inflammation, Chronic Active | | | 1 | | | 1 | | | | | | | | | | | | | 4 1.5 |
| Inflammation, Suppurative | 1 | 2 | | | 1 | | | | 2 | | | | | 1 | 1 | 2 | 1 | 1 | 34 1.6 |
| Prostate, Ventral Lobe | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Hyperplasia | | | | | | | | | | | | 2 | 3 | | | | | 4 | 7 2.3 |
| Infiltration Cellular, Lymphocyte | | | 1 | | | 1 | | | | | | | | | | | | | 2 1.0 |
| Inflammation, Chronic Active | | | | 2 | | | | | | | | | | | | | | | 6 2.2 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | 3 2.7 |
| Rete Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | 47 |
| Dilatation | | | | | | | | | | | | | | 1 | | | | | 2 2.0 |
| Fibrosis | 3 | | | | | | | | | | | | | | | | | | 1 3.0 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

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I ..Insufficient tissue

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

CD Rat Male
F1/2PPB TO CTL

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|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Dilatation | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Lumen, Dilatation | | | | | | | | | | | 2 | | | | | | | | | 5 3.2 |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Granuloma Sperm | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Seminif Tub, Degeneration | 4 | 1 | | 2 | | 1 | 1 | 4 | | | | | | 1 | | 1 | | 2 | | 23 2.0 |
| Hematopoietic System | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hypocellularity | | | | | | | | | | 2 | | | | | | | | | | 1 2.0 |
| Myeloid Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | 6 2.2 |
| Lymph Node | + | + | | + | + | + | + | + | | | | + | + | | + | + | | | + | 19 |
| Axillary, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | 2 | | | | | 1 2.0 |
| Axillary, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | 4 | | | | | 2 4.0 |
| Inguinal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | 2 | | | | 1 2.0 |
| Inguinal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | 4 | | | | 1 4.0 |
| Lumbar, Degeneration, Cystic | | 3 | | | 3 | 2 | 2 | 2 | | | | | | 3 | | | | 2 | | 9 2.3 |
| Lumbar, Hyperplasia, Lymphoid | | | | 3 | | | | | | | 2 | | | | | | | | | 3 2.3 |
| Lumbar, Infiltration Cellular, Plasma Cell | 4 | 4 | | 3 | | 2 | 2 | | | | 3 | | 3 | | | | | 2 | | 9 2.9 |
| Renal, Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Renal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Renal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | 3 | | | | | | | | | 2 2.5 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

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BLANK ..Not examined microscopically

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Experiment Number: 99920-94
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 Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|---------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 8 | 9 | 0 | 1 | 2 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Degeneration, Cystic | | | | | | 4 | 3 | 2 | | | | | | 1 | | | | | | 6 3.0 |
| Hyperplasia, Lymphoid | 2 | 3 | | 3 | 1 | | | | | 1 | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 2 | 24 2.0 |
| Infiltration Cellular, Plasma Cell | 2 | 3 | 2 | 4 | 2 | 3 | 2 | 2 | 2 | 1 | | 2 | | | 2 | 2 | 2 | 3 | 2 | 39 2.2 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia, Lymphoid | | | | | | | | 2 | | | | | | | | | | | | 1 2.0 |
| Inflammation, Granulomatous | | | | | | 2 | 2 | | | | 2 | 2 | 2 | | | | | 2 | | 14 1.7 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Depletion Lymphoid | | | | | | | | | | | | | | | | | | | | 2 3.0 |
| Hematopoietic Cell Proliferation | | | 2 | | | | | | | | | | | | | 1 | 2 | | | 16 2.2 |
| Hyperplasia, Lymphoid | | 2 | | | 2 | | 2 | | | | | | | | | | | 2 | | 5 1.8 |
| Infiltration Cellular, Polymorphnuclr | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Pigmentation | | | 2 | | | | | | | | | 1 | 3 | | | | 1 | | | 18 1.9 |
| Thymus | + | + | + | + | + | + | + | + | + | + | M | + | + | M | + | + | + | + | + | 46 |
| Atrophy | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | | 4 | 4 | 4 | 3 | 4 | 42 3.9 |
| Cyst, Squamous | | | | | | | | | | | | | | | | | | | | 1 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Epithel Cell, Hyperplasia | | | | | | | | | | | | | 2 | | | | | | | 2 2.0 |
| Integumentary System | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Acinus, Degeneration | 2 | 1 | | | | | | | | | | | 4 | 2 | 3 | 4 | 4 | 1 | 1 | 24 2.7 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

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Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:32
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| CD Rat Male
F1/2PPB TO CTL | | DAY ON TEST | | | | | | | | | | | | | | | | | | | ANIMAL ID | | | |
|--------------------------------------|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----|--|--|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | | |
| | | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | | | |
| | | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | | |
| | | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | | | | |
| | | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | *TOTALS | | | |
| Alveolus, Hyperplasia | | 1 | | | | | | | | | | | | | | | | | | | 2 | 2.0 | | |
| Ectasia | | | | | | | | | | | | | | | | | | | | | 3 | 1.3 | | |
| Lactation | | | | | | | | | | | | | | | | | | | | | 5 | 2.0 | | |
| Skin | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Cyst Epithelial Inclusion | | X | | | | | | | | | | | | | | | | | | | 2 | | | |
| Dermis, Fibrosis | | 3 | | | | | | | | | | | | | | | | | | | 1 | 3.0 | | |
| Dermis, Inflammation, Chronic Active | | 2 | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Dermis, Necrosis | | 3 | | | | | | | | | | | | | | | | | | | 1 | 3.0 | | |
| Hyperkeratosis | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | | |
| Inflammation, Chronic Active | | 4 | 4 | 4 | 4 | | | 4 | 4 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | 4 | 4 | 28 | 4.0 | | |
| Inflammation, Pyogranulomat | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | | 1 | 4.0 | | |
| Musculoskeletal System | | | | | | | | | | | | | | | | | | | | | | | | |
| Bone, Femur | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Skeletal Muscle | | + | | | | | | | | | | | | | | | | | | | 2 | | | |
| Nervous System | | | | | | | | | | | | | | | | | | | | | | | | |
| Brain, Brain Stem | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Compression | | | | | | | | | | | | | | | | | | | | | 7 | 2.6 | | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Brain, Cerebellum | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Hydrocephalus | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | | |
| Brain, Cerebrum | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |

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X ..Lesion present

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 First Dose M/F: NA / NA
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CD Rat Male
F1/2PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Hydrocephalus | |
| Peripheral Nerve | |
| Spinal Cord | |
| Respiratory System | |
| Lung | |
| Alveolar Epith, Hyperplasia | |
| Artery, Mineralization | |
| Infiltration Cellular, Histiocyte | |
| Inflammation, Chronic | |
| Inflammation, Chronic Active | |
| Nose | |
| Exudate | |
| Inflammation, Chronic Active | |
| Inflammation, Suppurative | |
| Mucosa, Hyperkeratosis | |
| Mucosa, Hyperplasia | |
| Mucosa, Keratin Cyst | |
| Vomeronas Org, Dilatation | |
| Trachea | |
| Special Senses System | |
| Eye | |
| Inflammation, Suppurative | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:32
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Acinus, Degeneration | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Infiltration Cellular, Lymphocyte | 2 | | | 1 | | | | | | | | | | | | | | | | 3 1.3 |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | 1 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Urinary System | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Cyst | X | | X | X | | X | | | X | | | X | X | X | | X | X | X | X | 25 |
| Hydronephrosis | | | | | | | | | | | | | | | | | | | | 2 2.5 |
| Inflammation, Suppurative | | | | | | | 3 | | | | | | | | | | | | | 1 3.0 |
| Medulla, Cyst | | | | | | | | | | | | | | | | | | | | 1 |
| Mineralization | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Nephropathy | 1 | 1 | 2 | 2 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 47 1.8 |
| Pelvis, Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Pelvis, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 2 3.5 |
| Polycystic Kidney | | | | | | | 4 | | | | | | | | | | | | | 1 4.0 |
| Renal Tubule, Hyperplasia | | | | | | | 2 | | | | | | | | | | | | | 1 2.0 |
| Transit Epithe, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Urethra | | | | | | | | | | | | | | | | | | | | 1 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Dilatation | | | | | | | | | | | | 4 | | | 4 | | | | | 2 4.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:33
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/2PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 1 | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 2 | 1 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 3 | 8 | 8 | 8 | 8 | 8 | 3 | 3 | 3 | 4 | 4 | 4 | 8 | 8 | 8 | 9 | 9 | 9 | 9 |
| | 8 | 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 7 | 8 | 9 | 0 | 1 | 2 | 3 |
| *TOTALS | | | | | | | | | | | | | | | | | | | |
| Hemorrhage | 1 3.0 | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | 1 2.0 | | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | 1 3.0 | | | | | | | | | | | | | | | | | | |
| Transit Epithe, Hyperplasia | 2 1.5 | | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:35

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

DAY ON TEST

ANIMAL ID

C Cell, Hyperplasia

Cyst, Squamous

General Body System

NONE

Genital System

Coagulating Gland

Developmental Malformation

Inflammation, Chronic Active

Inflammation, Suppurative

Ductus Deferens

Inflammation, Suppurative

Epididymis

Atrophy

Hypospermia

Infiltration Cellular, Lymphocyte

Penis

Dilatation

Preputial Gland

Abscess

Atrophy

Duct, Dilatation

Infiltration Cellular, Lymphocyte

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:35
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Male
 F1/10PPB TO CTL**

| | DAY ON TEST | |
|-----------------------------------|-------------|
| | 0 | 0 |
| | 2 | 2 | 3 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 1 | 4 | 8 | 5 | 1 | 1 | 7 | 5 | 6 | 7 | 2 | 3 | 2 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 9 | 1 | 6 | 4 | 2 | 1 | 6 | 9 | 9 | 7 | 5 | 0 | 9 | 6 | 3 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| ANIMAL ID | 0 | 0 |
| | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| | 0 | 1 | 3 | 4 | 6 | 7 | 1 | 1 | 3 | 5 | 3 | 4 | 4 | 6 | 8 | 8 | 9 | 3 | 3 | 4 | 9 | 9 | 9 | 9 | 9 | 3 | 3 | 4 |
| | 7 | 3 | 2 | 6 | 9 | 0 | 3 | 7 | 4 | 1 | 6 | 7 | 8 | 5 | 0 | 4 | 5 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 8 | 9 |
| Inflammation, Suppurative | | | | 2 | | 3 | | 3 | 4 | 4 | 3 | 1 | | 2 | 3 | | 2 | 4 | 3 | | | | | 2 | 2 | 3 | 2 | 1 |
| Prostate, Dorsal/Lateral Lobe | + | + | | A | | + |
| Infiltration Cellular, Lymphocyte | | | | | 1 | |
| Inflammation, Chronic Active | | 1 | | | |
| Inflammation, Suppurative | | | 1 | | | | 4 | 3 | 1 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 3 | 3 | 2 | 2 | 1 | 3 | 2 | 2 | | 1 |
| Prostate, Ventral Lobe | + | + | + | A | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | 1 | | | 2 | 2 | | 3 | | | |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | 1 | | | | | | | | 1 | | | |
| Inflammation, Chronic Active | | 3 | | | | |
| Inflammation, Suppurative | | | | | | | 4 | | | | 3 | | | | 1 | | | | | | | | | | | 1 | | |
| Rete Testes | + | + | + | A | + | A | + | + | + | + | + | + | M | M | + | + | M | + | M | + | + | + | + | + | M | + | + | + |
| Dilatation | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 2 |
| Fibrosis | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 2 |
| Seminal Vesicle | + | + | A | A | + | + | + | + | + | + | + | A | A | A | + | A | A | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | 1 | | | |
| Inflammation, Suppurative | | | | | | | 4 | |
| Lumen, Dilatation | | 2 | | | 4 | | |
| Testes | + | + | + | A | + | A | + |
| Seminif Tub, Degeneration | | 1 | | | 2 | | 1 | 4 | 2 | | 1 | | | 1 | 1 | | 1 | 3 | | 1 | 1 | 4 | | 3 | 4 | | 2 | 1 |
| Hematopoietic System | |
| Bone Marrow | + | + | A | A | + | A | A | + |
| Hypocellularity | | 2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible][illegible]

1 ..Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:36

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

DAY ON TEST

ANIMAL ID

| | | |
|-----------------------|------------------|------------------|
| 0
2
1
9 | 0
2
4
1 | 0
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8
6 | 0
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4 | 0
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1 | 0
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1 | | |

Infiltration Cellular, Plasma Cell

Inflammation, Granulomatous

Spleen

Hematopoietic Cell Proliferation

Hyperplasia, Stromal

Infiltration Cellular, Polymorphnuclr

Necrosis

Pigmentation

Thymus + + A A M A M M + + + + + + + + + + + + + + + + M + + I M +

Atrophy

Epithel Cell, Hyperplasia

Integumentary System

Mammary Gland + + A A + A +

Acinus, Degeneration

Alveolus, Hyperplasia

Atypical Focus

Duct, Hyperplasia

Ectasia

Lactation

[illegible]

Abscess

Cyst Epithelial Inclusion

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:37

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

Nephropathy

Urethra

Urinary Bladder

Dilatation

Hemorrhage

Inflammation, Suppurative

tion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:37
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 |
| | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 8 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 43 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 43 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 42 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 42 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 41 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 41 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Basophilic Focus | | X | | X | | | | | | | X | | | | | | | | 11 |
| Bile Duct, Hyperplasia | | | | | | | | | | 1 | | | | | | | 1 | | 7 1.4 |
| Biliar Tract, Fibrosis | | | 1 | | | | | | | | | | | | | | | | 2 1.0 |
| Degeneration, Cystic | | 1 | | | 1 | | | | | | 1 | | | | | 1 | | | 10 1.3 |
| Eosinophilic Focus | | X | X | | | | | | | | | | X | X | | | | | 5 |
| Hematopoietic Cell Proliferation | | | | | | | 1 | | | | 1 | | | | | 1 | | | 5 1.0 |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | 2 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | 7 1.1 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:38
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 |
| | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 8 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Necrosis | | | | | | | | | | | | | | | | | | | 3 2.0 |
| Tension Lipidosis | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Vacuolization Cytoplasmic | | | 1 | 2 | | | | 1 | 1 | | | | 2 | | | | | | 16 1.4 |
| Mesentery | | | + | | | | | | | | | | | | | | | | 2 |
| Fat, Necrosis | | | 4 | | | | | | | | | | | | | | | | 1 4.0 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | 1 |
| Gingival, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Acinar Cell, Degeneration | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | | 2 | 2 | 3 | 3 | 4 | 1 | 1 | 3 2.3 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Edema | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Cardiovascular System | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Atrium, Dilatation | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Cardiomyopathy | 1 | 2 | | 2 | 1 | 1 | 2 | 2 | 1 | | 1 | 2 | 1 | | 1 | | 1 | 2 | 2 1.6 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:38
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 |
| | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 8 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Endocardium, Hyperplasia | | | | | | | | | | | | | | | | | | | |
| Ventricle, Dilatation | | | | | | | | | | | | | | | | | | | |
| Endocrine System | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Accessory Adrenal Cortical Nodule | | | | | | | | | | | | | | | | | | | |
| Angiectasis | | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + |
| Cyst | X | | | | | | | | | | | | | | | | | | |
| Hyperplasia | 4 | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | 1 | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | + | + | + | + | M | + | + | M | + | + | + | + | + | + | + | M | + | + |
| Hyperplasia | | | | | | | | | | | | | | | | | | | |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | | | | | | | | | | | | | | | | | | | |
| Pars Intermed, Cyst | | | | | | | | | | | | | | | | | | | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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

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 First Dose M/F: NA / NA
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CD Rat Male
F1/10PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 | 9 |
| | 9 | 0 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 8 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| C Cell, Hyperplasia | | | | | 1 | | 3 | | | | | | | | | | | | 7 | 1.3 |
| Cyst, Squamous | | X | | | | | | | | | | | | X | | | X | | 11 | |
| General Body System | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | |
| Genital System | | | | | | | | | | | | | | | | | | | | |
| Coagulating Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Developmental Malformation | | | X | | X | | | X | | | | | | | | | | | | 8 |
| Inflammation, Chronic Active | | | | | 3 | | | | | | | | | | | | | | | 1 3.0 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 2 3.5 |
| Ductus Deferens | | | | | | | | | | | | | | | | | | | | 1 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Atrophy | | | | | | | | | | | | | | | | | | | | 4 2.0 |
| Hypospermia | | | | | | | | | | | | | | | | | | | | 4 4.0 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Penis | | | | | | | | | | | | | | | | | | | | 1 |
| Dilatation | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Abscess | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Atrophy | | | | | | | | | | | | 2 | | | | | | | | 3 2.7 |
| Duct, Dilatation | | 4 | | | 2 | | 1 | | 1 | | | | | | | | 1 | 2 | | 16 2.4 |
| Infiltration Cellular, Lymphocyte | 1 | 2 | | | | | 1 | | | | | | 1 | | 1 | | 1 | | | 9 1.2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:39

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|---|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 |
| | 9 | 0 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Myeloid Cell, Hyperplasia | 2 | 2 | | | | 1 | | | | | | | | | | | | 7 | 2.1 |
| Lymph Node | + | + | | + | | | + | | | | | + | + | + | + | | + | 14 | |
| Axillary, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Hemal, Degeneration, Cystic | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Hemal, Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Hemal, Necrosis | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Inguinal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | 3 | | | 1 | 3.0 |
| Inguinal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | 4 | | | 1 | 4.0 |
| Lumbar, Degeneration, Cystic | | | 3 | | 4 | | | | | | 4 | 2 | | 2 | | | | 8 | 3.1 |
| Lumbar, Hyperplasia, Lymphoid | | | | | | | | | | | | | 3 | 3 | | | 2 | 6 | 2.7 |
| Lumbar, Infiltration Cellular, Plasma Cell | | | 3 | | 4 | | 4 | | | | | 3 | 2 | 4 | | | 4 | 10 | 3.4 |
| Mediastinal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Renal, Degeneration, Cystic | | 4 | | | | | | | | | | | | | 2 | | | 3 | 3.3 |
| Renal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | 2 | | | 1 | 2.0 |
| Renal, Infiltration Cellular, Plasma Cell | | 3 | | | | | | | | | | | | | 3 | | | 3 | 3.3 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | 4 | 2.5 |
| Hyperplasia, Lymphoid | | | | 2 | 3 | 2 | 2 | | | | 3 | | 2 | 1 | 2 | | 2 | 26 | 2.0 |
| Infiltration Cellular, Plasma Cell | 3 | | | 3 | 4 | 3 | 2 | | | 3 | 3 | | 2 | | 4 | 2 | 2 | 32 | 2.6 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 44 | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Hyperplasia, Lymphoid | | | 2 | | | 2 | | 2 | | 2 | | 2 | | | | | | 5 | 2.0 |
| Infiltration Cellular, Mast Cell | | | | | | | | | | | | | | 3 | | | | 1 | 3.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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Experiment Number: 99920-94
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CAS Number: 57-63-6

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

CD Rat Male
F1/10PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 | 9 |
| | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 8 | 9 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation, Granulomatous | 2 | | 2 | | | | | | | | | | | 2 | | | | | | 10 1.8 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Hematopoietic Cell Proliferation | 2 | 2 | 1 | | | | | 1 | | | 1 | 2 | 1 | 1 | 1 | | | | | 19 1.8 |
| Hyperplasia, Stromal | | | | | | | | | | | 4 | | | | | | | | | 1 4.0 |
| Infiltration Cellular, Polymorphnucl | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Necrosis | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pigmentation | | | | 2 | | | | | | 2 | 2 | | | | | 1 | 2 | 1 | | 18 2.1 |
| Thymus | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 40 |
| Atrophy | 4 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 3 | 39 3.9 |
| Epithel Cell, Hyperplasia | | | | | | | | | | 1 | | | | | | | | | | 2 1.5 |
| Integumentary System | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Acinus, Degeneration | 2 | 4 | | | | | | 2 | 1 | | | 4 | 3 | 1 | | 1 | | | 2 | 17 2.4 |
| Alveolus, Hyperplasia | | | | 2 | | | 1 | | | | | | | | 1 | | | 4 | | 6 2.0 |
| Atypical Focus | | | | | X | | | | | | | | | | | | | | | 1 |
| Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Ectasia | | | | 2 | 3 | | | | | 1 | | | | | | | | | | 12 1.8 |
| Lactation | 1 | | | 3 | 3 | | | | | 3 | 2 | | | | | | | | | 14 2.4 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Abscess | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Cyst Epithelial Inclusion | | | | | | | | | | | | | | | | | | | | 2 |

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X ..Lesion present

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 CAS Number: 57-63-6

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 Time Report Requested: 13:28:39
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Male
 F1/10PPB TO CTL**

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--------------------------------------|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 |
| | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 8 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Dermis, Inflammation, Chronic Active | | | | | | | | | | | | | | | 2 | | | 2 | 2.0 |
| Epidermis, Hyperplasia | | | | | | | | | | | | | | | 2 | | | 1 | 2.0 |
| Hair Follicle, Hemorrhage | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Hyperkeratosis | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Inflammation, Chronic Active | 4 | 4 | 4 | 4 | 4 | | | 4 | 4 | 4 | 4 | | | 4 | 4 | 4 | | 4 | 28 3.9 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Musculoskeletal System | | | | | | | | | | | | | | | | | | | |
| Bone, Femur | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Nervous System | | | | | | | | | | | | | | | | | | | |
| Brain, Brain Stem | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Compression | 2 | | | 3 | 2 | | | | | | | | | | | | | | 10 2.5 |
| Gliosis | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 3 1.3 |
| Brain, Cerebellum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Brain, Cerebrum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Hydrocephalus | | | | 2 | | | | | | | | | | | | | | | 4 1.5 |
| Respiratory System | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Alveolar Epith, Hyperplasia | | | 4 | | 1 | | | | | 1 | | 1 | | | 1 | | | | 9 1.7 |
| Artery, Mineralization | 1 | | | 1 | | | | | | | | | | | | | | | 3 1.0 |
| Infiltration Cellular, Histiocyte | 1 | | 2 | | 1 | | | | | 2 | | 1 | | | 1 | | | 1 | 17 1.6 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:40
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

| | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|-----------------------------------|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 | |
| | | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 8 | 9 | |
| | | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Metaplasia, Osseous | | | | | | | | | | | | | | | | | | 1 | | 2 | 1.0 |
| Thrombosis | | | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Nose | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | 3 | 1.7 |
| Inflammation, Suppurative | | 2 | | | | | | | | | | | | | | | | | | 2 | 1.5 |
| Mucosa, Hyperkeratosis | | | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Mucosa, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 | 4.0 |
| Mucosa, Keratin Cyst | | | | | | | | | | | | | | | | | | | | 1 | |
| Trachea | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | |
| Special Senses System | | | | | | | | | | | | | | | | | | | | | |
| Eye | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 | |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Harderian Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Lacrimal Gland | | | | | | | | | | | | | | | | | | | | 1 | |
| Ectopic Harderian | | | | | | | | | | | | | | | | | | | | 1 | |
| Urinary System | | | | | | | | | | | | | | | | | | | | | |
| Kidney | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | |
| Cyst | | X | X | X | X | | | | X | | X | | | X | | X | X | | | 24 | |
| Hydronephrosis | | | | | | | | | | | | | | | | | | | | 2 | 4.0 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:40
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/10PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|---------------------------|-------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 4 | 9 | 9 | 9 | 9 | 4 | 4 | 4 | 9 | 9 | 9 | 9 |
| | 9 | 0 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 7 | 8 | 9 |
| | *TOTALS |
| Nephropathy | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 2 | 2 | 3 | 1 | 4 | 2 | 2 | 2 | 2 | 2 |
| Urethra | | | | | | + | | | | | | | | + | | | | + | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Dilatation | |
| Hemorrhage | |
| Inflammation, Suppurative | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:41

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

Vacuolization Cytoplasmic

Oral Mucosa

Keratin Cyst

Pancreas

Acinar Cell, Degeneration

Polyarteritis

Salivary Glands

Stomach, Forestomach

Epithelium, Hyperplasia

Stomach, Glandular

Tongue

Inflammation, Chronic Active

Cardiovascular System

Blood Vessel

Heart

Atrium, Dilatation

Cardiomyopathy

Metaplasia, Osseous

Ventricle, Dilatation

Endocrine System

Adrenal Cortex

Angiectasis

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:42

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

| |
|-----------------------------------|
| Coagulating Gland | + | + | + | + | + | + | + | + | A | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | 1 | | | 3 | |
| Developmental Malformation | | X | | | | | | X | | | | | | | | X | | | | X | | | X | | X | | | | | | |
| Inflammation, Suppurative |
| Lumen, Dilatation | 3 | | | | | | | 3 | | | |
| Epididymis | + |
| Atrophy | | | | | | | | 3 | | | | | | | | | 2 | | | | | | | | | | | | 1 | | |
| Hypospermia | | | | | | | | 4 | | | | | | | | | 3 | | | | | | | | | | | | 3 | | |
| Polyarteritis |
| Preputial Gland | + |
| Abscess |
| Atrophy | | | | | | | | 4 | | 3 | | | | | | | | | | 3 | | | | | | | | | | | |
| Duct, Dilatation | | | | | | | | | 3 | 2 | | | 2 | | | 4 | 2 | | 2 | | | | 1 | | 3 | 2 | | | | | |
| Infiltration Cellular, Lymphocyte | | | 1 | | | 2 | | | | | | | | 2 | | | | | | 1 | | 2 | | | | | | 2 | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | |
| Inflammation, Suppurative | | 2 | | | | | 2 | | 2 | 3 | 2 | | 4 | | | 3 | 3 | | 3 | 2 | | | 2 | | 3 | 2 | | 1 | | 3 | |
| Keratin Cyst | | | | | | | | | | X | |
| Polyarteritis |
| Prostate, Dorsal/Lateral Lobe | + | + | + | + | + | + | + | + | + | + | | | | + | | | | + | + | + | | | | | + | | + | | | + | |
| Atrophy | | | | | | | | 3 | |
| Degeneration | | | | | | 2 | |
| Inflammation, Chronic Active | | | | | | | | 1 | | 4 |
| Inflammation, Suppurative | 2 | 4 | 1 | 1 | 1 | 2 | 1 | | 2 | | 2 | 2 | 1 | | 2 | 2 | 3 | | | | 1 | 1 | 2 | 1 | 1 | 1 | | 1 | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

1 ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:42
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

| DAY ON TEST | 0 |
|--|---|
| ANIMAL ID | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 |
| | 6 | 5 | 7 | 9 | 0 | 0 | 1 | 4 | 4 | 5 | 7 | 1 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 9 | 6 | 3 | 4 | 1 | 1 | 1 | 6 | 6 | 4 | 5 | 5 | 8 | 8 | 6 | 0 | 2 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| | 0 |
| | 0 |
| | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 5 | 9 | 1 | 3 | 4 | 4 | 6 | 9 | 0 | 0 | 4 | 1 | 6 | 7 | 8 | 0 | 0 | 4 | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 4 | 4 | 4 | 5 | 5 | 9 |
| | 0 | 2 | 0 | 1 | 7 | 8 | 2 | 2 | 1 | 6 | 3 | 7 | 4 | 1 | 8 | 0 | 4 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 8 |
| Prostate, Ventral Lobe | + |
| Hyperplasia |
| Infiltration Cellular, Lymphocyte | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | 1 | | | | |
| Inflammation, Chronic Active | | | | | | | | | | 3 | | | | | 1 | | | | | | | | | | | | | | | | 4 |
| Inflammation, Suppurative | | 4 | | | | | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | |
| Rete Testes | M | + | + | + | + | + | + | + | + | + | + | M | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Dilatation | | 1 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 | | |
| Seminal Vesicle | + | + | + | + | + | + | + | + | A | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy | | | | | | | 2 | 3 | | 3 | | | | | | 3 | | | | | | | | | | | | | | | |
| Epithelium, Hyperplasia | 4 |
| Inflammation, Suppurative | | | | | | | | | | 2 | | 4 |
| Testes | + |
| Polyarteritis |
| Seminif Tub, Degeneration | 1 | 1 | 1 | 1 | 1 | | | 4 | | | | 1 | 1 | | | 1 | | | | | | | | 1 | 1 | | | 4 | | 1 | |
| Hematopoietic System |
| Bone Marrow | + | + | + | + | + | + | + | A | + |
| Erythroid Cell, Hyperplasia | 4 | |
| Myeloid Cell, Hyperplasia | | 2 | | | | | | | | 2 | | 3 | | | 2 | | | | | | | | | | | | | | | | |
| Lymph Node | | | | | | | | | | | | + | | + | + | + | | | | | | | + | | + | | | | | + | |
| Axillary, Hyperplasia, Lymphoid |
| Axillary, Infiltration Cellular, Plasma Cell | |
| Inguinal, Degeneration, Cystic |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:43

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible][illegible]

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
4
6
9 | 0
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2

Integumentary System

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2

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4

+

4

X

4

Musculoskeletal System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

Bone

Bone, Femur

Skeletal Muscle

Nervous System

Brain, Brain Stem

Compression

Brain, Cerebellum

Gliososis

Hemorrhage

Brain, Cerebrum

Hydrocephalus

Meninges, Hyperplasia

Respiratory System

Lung

Alveolar Epith, Hyperplasia

Artery, Mineralization

Hemorrhage

Infiltration Cellular, Histiocyte

Inflammation, Chronic Active

Metaplasia, Osseous

Nose

Inflammation, Suppurative

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

1 ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
Test Type: SPECIAL STUDY
Route: DOSED FEED
Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:28:44
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

| CD Rat Male
F1/50PPB TO CTL | DAY ON TEST | 0 | |
|-----------------------------------|-------------|
| | | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 6 | 5 | 7 | 9 | 0 | 0 | 1 | 4 | 4 | 5 | 7 | 1 | 3 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | | 9 | 6 | 3 | 4 | 1 | 1 | 9 | 6 | 6 | 4 | 5 | 5 | 8 | 8 | 6 | 0 | 2 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| | ANIMAL ID | 0 |
| | 0 | 0 | |
| | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | 5 | 9 | 1 | 3 | 4 | 4 | 6 | 9 | 0 | 0 | 4 | 1 | 6 | 7 | 8 | 0 | 0 | 4 | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 4 | 4 | 5 | 9 | |
| | 0 | 2 | 0 | 1 | 7 | 8 | 2 | 2 | 1 | 6 | 3 | 7 | 4 | 1 | 8 | 0 | 4 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | |
| Trachea | + | + | |
| Special Senses System | |
| Eye | + | + | + | + | + | + | + | + | A | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Cataract | | | | | | | | | | X | |
| Inflammation, Chronic Active | | | | | | | | | | 3 | |
| Retina, Degeneration | | | | | | | | | | | | 4 | | | | | | | | | | | | | | | | | | |
| Harderian Gland | + | + | |
| Acinus, Degeneration | | 2 | 2 | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Lymphocyte | | 1 | | 1 | |
| Polyarteritis | |
| Lacrimal Gland | | | | | | | | | | | | + | | | | | | | | | | | | | | | | | | |
| Urinary System | |
| Kidney | + | + | + | + | + | + | + | + | A | + | |
| Cyst | | X | | X | X | | | | | | | X | X | X | | X | | X | | | X | X | X | | | X | | | | |
| Mineralization | | 1 | 1 | 1 | | | |
| Nephropathy | | 2 | 3 | 1 | 3 | 2 | 4 | | | 2 | 3 | 2 | 1 | | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 1 | 4 | 2 | 1 | 1 | 2 | 2 | |
| Pelvis, Inflammation, Suppurative | | 2 | | |
| Renal Tubule, Hyperplasia | | 1 | | | | |
| Transit Epithe, Hyperplasia | | 2 | |
| Urethra | | | | | | | | | | | | | | | | | | + | | | | | | | | | | | | |
| Urinary Bladder | + | + | + | + | + | + | + | + | A | + | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:44
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Male
 F1/50PPB TO CTL**

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| | 9 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 0 |
| | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 0 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 2 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Polyarteritis | | | | | | | | | | | | 2 | | | | | | | 1 2.0 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | 45 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Angiectasis | | | | | | | | | 1 | | | | | | | | | | 1 1.0 |
| Basophilic Focus | | | | | | X | | | | | | X | | | | | | | 6 |
| Bile Duct, Hyperplasia | | | | | 1 | | 1 | | | | 1 | | | | | | | | 4 1.0 |
| Cyst | | | | | | X | | | | | | | | | | | X | | 2 |
| Degeneration, Cystic | | | | | 1 | | | | 2 | | | 1 | 2 | | | | | | 10 1.4 |
| Eosinophilic Focus | | | | | | | | X | | | | X | X | X | | X | | | 10 |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Hepatodiaphragmatic Nodule | | | | | | | | | X | | | | | | | X | | | 3 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | 1 | 2 1.0 |
| Inflammation, Chronic Active | | 1 | 1 | | 1 | 1 | | | | 1 | 1 | | | | | | | | 12 1.1 |
| Necrosis | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Tension Lipidosis | | | | | | | | | | | | | | | | | | | 2 2.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:44
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| | 9 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 0 |
| | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 2 | 2 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Vacuolization Cytoplasmic | | | | 2 | | | | 1 | | 2 | | | | 1 | 1 | | | 12 | 1.6 |
| Oral Mucosa | | | | | | | | | + | | | | | | | | + | 6 | |
| Keratin Cyst | | | | | | | | | X | | | | | | | | | 1 | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Acinar Cell, Degeneration | 1 | 2 | 2 | 1 | 4 | 2 | 1 | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 2 | 4 |
| Polyarteritis | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | 2 | 2.5 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Tongue | | | | | | | | | | | | | | | | | | 1 | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Cardiovascular System | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrium, Dilatation | | | | | | | | | | | | | | | | | | 2 | 3.5 |
| Cardiomyopathy | 2 | 2 | 1 | 1 | 2 | 1 | | | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 1 |
| Metaplasia, Osseous | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Ventricle, Dilatation | | | | | | | | | | 3 | | | | | | | | 1 | 3.0 |
| Endocrine System | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Angiectasis | | | | | | | | | | | | | | | | | | 2 | 2.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
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 Species/Strain: Rat/CD

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

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:45
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Male
 F1/50PPB TO CTL**

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|----------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| | 9 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 |
| | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 0 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 2 | 2 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | 2 | | 6 1.7 |
| Hyperplasia | 2 | | 1 | | 2 | | | | | 2 | 2 | | | | 2 | | | 1 | 1 | 14 1.6 |
| Hypertrophy | | | 2 | | | | | | | 2 | | | | 2 | | 1 | | | | 6 1.8 |
| Vacuolization Cytoplasmic | 1 | | | | 1 | | 1 | | | 1 | | | | | 2 | 1 | | | 1 | 15 1.3 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | 2 | | 1 | | 1 | | | | | | | | | | | | | | 1 | 7 1.4 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | 1 | | | | | | | 1 | | | | | 1 | | | | | | 7 1.0 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Bilateral, Hyperplasia | | | | 2 | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia | | | 1 | | | 2 | | | | 2 | | | | | | | 2 | | | 6 1.8 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | 1 |
| Pars Distalis, Hyperplasia | | | | | | | | | | 2 | | | | 2 | | 2 | | | | 10 2.0 |
| Pars Intermed, Cyst | | | | | | | | | | | | | | | | | | | | 1 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| C Cell, Hyperplasia | | | | | | | 1 | 1 | | | | | | 2 | 2 | | | | | 7 1.6 |
| Cyst, Squamous | | | | | | | | | | | | X | | | | | X | | | 8 |

General Body System

NONE

Genital System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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CD Rat Male
F1/50PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| | 9 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 0 | 0 |
| | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 0 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 2 | 2 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Coagulating Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Atrophy | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Developmental Malformation | | | | X | | | | | | X | | | | | | | | | | 8 |
| Inflammation, Suppurative | | | | 1 | | | | | | | | | | | | | | | | 1 1.0 |
| Lumen, Dilatation | | | | 2 | | | | | | | | | | | | | | | | 3 2.7 |
| Epididymis | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | | | | | 2 | | | | 2 | 2 | 3 | 2 | | | | | | | | 8 2.1 |
| Hypospermia | | | | | 4 | | | | 4 | 4 | 4 | 4 | | | | | | | | 8 3.8 |
| Polyarteritis | | | | | | | | | | | | | | 2 | | | | | | 1 2.0 |
| Preputial Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Abscess | | | | | | | | | | | | | | | | | | | 4 | 1 4.0 |
| Atrophy | 2 | | | | | | | | | 3 | 2 | | | | | | | | | 6 2.8 |
| Duct, Dilatation | | | | | | | 2 | | | | | | | | 2 | | 1 | | | 12 2.2 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | 1 | 2 | | | | | | | | | 8 1.6 |
| Inflammation, Chronic Active | | | | 4 | | | | | 1 | | | | | | | | | | | 3 2.3 |
| Inflammation, Suppurative | | 2 | | | | | 4 | | | | | 2 | | 1 | 4 | 3 | 2 | 1 | | 23 2.4 |
| Keratin Cyst | | | | | | | | | | | | | | | | | | | | 2 |
| Polyarteritis | | | | | | | | | | | | | 2 | | | | | | | 1 2.0 |
| Prostate, Dorsal/Lateral Lobe | | + | + | | | | + | | | | | | | + | | | | | | 50 |
| Atrophy | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Degeneration | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | 2 | | | 3 2.3 |
| Inflammation, Suppurative | 2 | | | 3 | 2 | 2 | | 1 | 1 | 1 | 2 | 2 | 2 | | 3 | 1 | | 3 | 2 | 35 1.7 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

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I ..Insufficient tissue

M ..Missing tissue

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CAS Number: 57-63-6

Date Report Requested: 10/23/2014
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 First Dose M/F: NA / NA
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CD Rat Male
F1/50PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| | 9 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 0 | 0 |
| | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 0 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 2 | 2 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Prostate, Ventral Lobe | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | 2 | 1 | | | | | | | | | | | | | | 3 1.3 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Inflammation, Chronic Active | | | 2 | | | | | | | | | | | | | | | | | 4 2.5 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 3 2.0 |
| Rete Testes | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | 46 |
| Dilatation | | | | | | | | | | | | | 2 | | | 1 | | | | 5 1.2 |
| Seminal Vesicle | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Atrophy | | | 1 | | | | | | | | | | | | | | | | | 5 2.4 |
| Epithelium, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 2 3.0 |
| Testes | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Polyarteritis | | | | | | | | | | | | | 2 | | | | | | | 1 2.0 |
| Seminif Tub, Degeneration | | | 1 | 1 | 4 | | | 4 | 4 | 4 | 4 | 3 | | 1 | 1 | | | | | 23 2.0 |
| Hematopoietic System | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Erythroid Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Myeloid Cell, Hyperplasia | 2 | | 3 | 2 | | | | | | | | | | | | | | | | 7 2.3 |
| Lymph Node | + | | + | + | + | + | | | | + | + | + | | | | | + | + | + | 19 |
| Axillary, Hyperplasia, Lymphoid | 4 | | | | | 4 | | | | | | | | | | | | | | 2 4.0 |
| Axillary, Infiltration Cellular, Plasma Cell | 4 | | | | | 2 | | | | | | | | | | | | | | 2 3.0 |
| Inguinal, Degeneration, Cystic | | | | | | | | | | | | | | | | | 4 | | | 1 4.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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Time Report Requested: 13:28:46

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 6 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| | 9 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 |
| | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 0 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 2 | 2 | 2 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | | |
| Inguinal, Hyperplasia, Lymphoid | 3 | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Lumbar, Degeneration, Cystic | 4 | | 4 | | 4 | 2 | 4 | | | 3 | 3 | 1 | | | | | 4 | 2 | 2 | 17 | 3.1 |
| Lumbar, Hyperplasia, Lymphoid | | | | | | 3 | | | | 3 | | | | | | | | | | 4 | 2.8 |
| Lumbar, Infiltration Cellular, Plasma Cell | | | | 2 | | 3 | | | | 4 | 2 | | | | | | | 3 | | 9 | 3.0 |
| Mediastinal, Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Mediastinal, Infiltration Cellular, Histiocyte | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Pancreatic, Hyperplasia, Lymphoid | | | | | | | | | | | | 2 | | | | | | | | 1 | 2.0 |
| Popliteal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | 4 | | | | | | | | 1 | 4.0 |
| Renal, Degeneration, Cystic | 4 | | | | | | | | | 4 | | | | | | | 4 | | | 4 | 3.8 |
| Renal, Infiltration Cellular, Plasma Cell | | | | | | | | | | 4 | | | | | | | | | | 2 | 3.0 |
| Thoracic, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Degeneration, Cystic | | | 2 | | | 3 | | | | 1 | 2 | 2 | | | | | 2 | | | 15 | 1.9 |
| Hyperplasia, Lymphoid | | 2 | 2 | 2 | | 2 | 2 | 2 | 3 | | | 2 | | | | 2 | 2 | 2 | 2 | 29 | 2.2 |
| Infiltration Cellular, Plasma Cell | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 3 | 2 | 2 | 3 | 2 | | 2 | 1 | 2 | 2 | 2 | 33 | 2.2 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | 3 | 2 | 3.0 |
| Hyperplasia, Lymphoid | 2 | | | 2 | | | | | | | | | | | | | | | 2 | 8 | 2.0 |
| Inflammation, Granulomatous | | | | | | | | 1 | 2 | 3 | | | | | | | | | | 7 | 2.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Depletion Lymphoid | | | | | | | | | | | | | | | | | | | | 2 | 3.0 |
| Hematopoietic Cell Proliferation | 1 | | 3 | | 2 | | | | | 1 | | 2 | 1 | 1 | 2 | | | | 1 | 21 | 1.8 |
| Hyperplasia, Lymphoid | | | | | 2 | | | | | | | | | | | | | | | 2 | 2.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:47
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Male
F1/50PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 |
| | 9 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 0 |
| | 9 | 0 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 0 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 2 | 2 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Special Senses System | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Cataract | | | | | | | | | | X | | | | | | | | | | 2 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Retina, Degeneration | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Acinus, Degeneration | | | | | | | | | | 1 | | | | | | | | | 2 | 5 1.8 |
| Infiltration Cellular, Lymphocyte | | | | 1 | 2 | | | | | | | | | | 1 | | 1 | 2 | 2 | 8 1.4 |
| Polyarteritis | | | | | | | | | | | | | 1 | | | | | | | 1 1.0 |
| Lacrimal Gland | | | | | | | | | | | | | | | | | | | | 1 |
| Urinary System | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Cyst | | X | | X | | | X | | X | | X | X | | X | X | X | X | X | | 23 |
| Mineralization | | | | | | | 2 | | | | | | | | | | | | | 4 1.3 |
| Nephropathy | 4 | 1 | 3 | 2 | 2 | 2 | 3 | 2 | 1 | 4 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 3 | 46 2.0 |
| Pelvis, Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Renal Tubule, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Transit Epithe, Hyperplasia | 2 | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Urethra | | | | | | | | | | | | | | | | | | | | 1 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
Test Type: SPECIAL STUDY
Route: DOSED FEED
Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:28:47
First Dose M/F: NA / NA
Lab: NCTR

END OF MALE DATA

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 0PPB

DAY ON TEST

ANIMAL ID

[illegible]

Alimentary System

| |
|-----------------------------------|
| Esophagus | + |
| Intestine Large, Cecum | + |
| Intestine Large, Colon | + |
| Intestine Large, Rectum | + |
| Intestine Small, Duodenum | + |
| Intestine Small, Ileum | + |
| Intestine Small, Jejunum | + |
| Liver | + |
| Angiectasis |
| Basophilic Focus | X | | | | | | | | | | | |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | 1 | 2 | | 1 | | | 2 | | | | | | | | | | | 1 | |
| Capsule, Hemorrhage, Focal | | | | | | 2 | | | | | | | | | | | | | 2 | | | | | | | | | | | | | |
| Cyst Multilocular | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | X | |
| Degeneration, Cystic | 2 | | | | | | | | | | |
| Eosinophilic Focus | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | |
| Hematopoietic Cell Proliferation | | | | 1 | |
| Hepatodiaphragmatic Nodule |
| Infiltration Cellular, Lymphocyte | |
| Inflammation, Chronic Active | | | | | | 1 | | | 1 | | | | | | 1 | | | | | | | | | | | | 1 | | | | | |
| Periportal, Inflammation, Chronic | |
| Vacuolization Cytoplasmic | 2 | | | | | | | 2 | | | | | 2 | | 3 | | | | | | | | | | 3 | | 2 | | | | | 2 |

Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 0PPB

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
5
2
9 | 0
5
3
9 | 0
5
6
8 | 0
5
9
5 | 0
5
9
8 | 0
6
1
4 | 0
6
3
1 | 0
6
4
5 | 0
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9 | 0
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3 | 0
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9 | 0
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7 | 0
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8 | 0
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3 | 0
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8 | 0
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9 | 0
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5 | 0
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6 | 0
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5
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7 | 0
0
5
7
9 | 0
0
5
8
6 |

[illegible]

I ..Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:48
 First Dose M/F: NA / NA
 Lab: NCTR

| CD Rat Female
F1 OPPB | DAY ON TEST | ANIMAL ID | |
|-----------------------------------|-------------|-----------|
| | | 0 | 0 |
| | | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 2 | 3 | 6 | 9 | 9 | 1 | 3 | 4 | 4 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 9 | 0 | 0 | 1 | 1 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | | 9 | 9 | 8 | 5 | 8 | 4 | 1 | 5 | 9 | 3 | 9 | 8 | 2 | 5 | 9 | 9 | 6 | 0 | 0 | 2 | 3 | 7 | 0 | 0 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 0 | 0 | |
| | | 0 | 0 | |
| | | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | | 7 | 8 | 0 | 3 | 4 | 5 | 7 | 8 | 0 | 1 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 7 | 9 | 0 | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 1 | 9 | 7 | 5 | 7 | 6 | 8 | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 8 | 5 | 4 | 2 | 5 | 3 | 8 | 9 | 5 | 6 | 7 | 9 | 6 | 7 | 8 | 7 | 8 | 7 | 8 | |
| Hyperplasia | | |
| Hypertrophy | | 2 | | | | | | | | | | | | 2 | | | 1 | | | | | | 1 | | | | | | | | | | | | | | |
| Metaplasia, Osseous | | |
| Vacuolization Cytoplasmic | | | 1 | |
| Adrenal Medulla | | + | + | |
| Islets, Pancreatic | | + | + | |
| Hyperplasia | | | | | | | | | 2 | |
| Parathyroid Gland | | + | + | + | + | + | + | M | + | + | M | + | |
| Pituitary Gland | | + | + | |
| Angiectasis | | |
| Pars Distalis, Cyst | | | | | | | | | | | | | | X | | | | | | | | X | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | | |
| Pars Intermed, Cyst | | | | | | | | | X | |
| Thyroid Gland | | + | + | |
| C Cell, Hyperplasia | | | | | | | 1 | | 1 | | | 1 | | | | | | | | | 1 | | | | | | 1 | | | | | | | | | | |
| Infiltration Cellular, Lymphocyte | | |
| Inflammation, Chronic | | |
| Ultimobranchial Cyst | | |
| General Body System | | |
| NONE | | |
| Genital System | | |
| Clitoral Gland | | + | + | M | + | + | + | + | + | + | + | + | + | + | + | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 0PPB

DAY ON TEST

ANIMAL ID

| |
|---|
| 0 |
| 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 2 | 3 | 6 | 9 | 9 | 1 | 3 | 4 | 4 | 5 | 6 | 6 | 7 | 7 | 7 | 8 | 9 | 0 | 0 | 1 | 1 | 2 | 2 | 5 | 5 | 5 | 5 |
| 9 | 9 | 8 | 5 | 8 | 4 | 1 | 5 | 9 | 3 | 9 | 8 | 2 | 5 | 9 | 9 | 6 | 0 | 0 | 2 | 3 | 7 | 0 | 0 | 6 | 6 | 7 |
| 0 |
| 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 |
| 7 | 8 | 0 | 3 | 4 | 5 | 7 | 8 | 0 | 1 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 7 | 9 | 0 | 1 | 2 | 2 | 0 | 0 | 5 | 0 |
| 7 | 1 | 9 | 7 | 5 | 7 | 6 | 8 | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 8 | 5 | 4 | 2 | 5 | 3 | 8 | 9 | 5 | 6 | 7 |

[illegible]

I ..Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:49

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1 0PPB

DAY ON TEST

ANIMAL ID

| |
|---|
| 0 |
| 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 2 | 3 | 6 | 9 | 9 | 1 | 3 | 4 | 4 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 9 | 0 | 0 | 1 | 1 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 |
| 9 | 9 | 8 | 5 | 8 | 4 | 1 | 5 | 9 | 3 | 9 | 8 | 2 | 5 | 9 | 9 | 6 | 0 | 0 | 2 | 3 | 7 | 0 | 0 | 6 | 6 | 6 | 7 | 7 | 7 |
| 0 |
| 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 |
| 7 | 8 | 0 | 3 | 4 | 5 | 7 | 8 | 0 | 1 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 7 | 9 | 0 | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 5 | 0 | 0 |
| 7 | 1 | 9 | 7 | 7 | 5 | 6 | 8 | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 8 | 5 | 4 | 2 | 5 | 3 | 8 | 5 | 6 | 7 | 9 | 6 | 7 | 8 |

Lymph Node, Mandibular

Degeneration, Cystic

Hemorrhage

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Lymph Node, Mesenteric

Degeneration, Cystic

Depletion Lymphoid

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Pigmentation

Spleen

Hematopoietic Cell Proliferation

Pigmentation

Red Pulp, Atrophy

Thymus

Cyst

Integumentary System

Mammary Gland

Alveolus, Hyperplasia

Atypical Focus

Duct, Dilatation

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:50

First Dose M/F: NA / NA

Lab: NCTR

| CD Rat Female
F1 0PPB | | DAY ON TEST | |
|------------------------------|--|-------------|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 8 | 9 | 0 | 0 | 1 | 1 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 |
| | | 9 | 9 | 8 | 5 | 8 | 4 | 1 | 5 | 9 | 3 | 9 | 8 | 2 | 5 | 9 | 9 | 6 | 0 | 0 | 0 | 2 | 3 | 7 | 0 | 0 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| ANIMAL ID | | 0 | 0 | |
| | | 0 | 0 | |
| | | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | |
| | | 7 | 8 | 0 | 3 | 4 | 5 | 7 | 8 | 0 | 1 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 7 | 9 | 0 | 1 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| | | 7 | 1 | 9 | 7 | 5 | 7 | 6 | 8 | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 8 | 5 | 4 | 2 | 5 | 3 | 8 | 9 | 5 | 6 | 7 | 9 | 6 | 7 | 8 | |
| Galactoceles | | X |
| Lactation | | 2 | 2 | 2 | 3 | | 2 | 2 | | | | | | | 3 | 4 | 1 | 2 | | | | 2 | | | 2 | | 1 | 2 | | 2 | 2 | | |
| Skin | | + | + | |
| Abscess | | 3 |
| Inflammation | | 2 | | 2 | | | | | | | 3 | 4 | 4 | | 4 | | | | | | | 4 | 3 | 4 | | | | 4 | 4 | 1 | 4 | | |
| Musculoskeletal System | | |
| Bone, Femur | | + | + | | |
| Skeletal Muscle | | + |
| Nervous System | | |
| Brain, Brain Stem | | + | + | | |
| Compression | | | 2 | 4 | 3 | | 3 | | | | | | | | 2 | 3 | 3 | 2 | 3 | 2 | | 2 | 3 | 3 | | | | | 3 | 2 | | | |
| Brain, Cerebellum | | + | + | | |
| Hydrocephalus | | 2 |
| Brain, Cerebrum | | + | + | | |
| Hydrocephalus | | 2 |
| Peripheral Nerve | | + |
| Spinal Cord | | A |
| Respiratory System | | |
| Lung | | + | + | | |
| Alveolar Epith, Hyperplasia | | |
| Hemorrhage | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:50
 First Dose M/F: NA / NA
 Lab: NCTR

| CD Rat Female
F1 OPPB | | DAY ON TEST | ANIMAL ID | | | | | | | | | | | |
|-----------------------------------|--|-------------|-----------|---|---|---|---|---|---|---|---|---|---|----|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 2 | 3 | 6 | 9 | 9 | 1 | 3 | 4 | 4 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 8 | 9 | 0 | 0 | 1 | 1 | 2 | 2 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | | 9 | 9 | 8 | 5 | 8 | 4 | 1 | 5 | 9 | 3 | 9 | 8 | 2 | 5 | 9 | 9 | 6 | 0 | 0 | 2 | 3 | 7 | 0 | 0 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | | 7 | 8 | 0 | 3 | 4 | 5 | 7 | 8 | 0 | 1 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 7 | 9 | 0 | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 7 | 1 | 9 | 7 | 5 | 7 | 6 | 8 | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 8 | 5 | 4 | 2 | 5 | 3 | 8 | 9 | 5 | 6 | 7 | 9 | 6 | 7 | 6 | 7 | 6 | 7 | 8 | 8 | |
| Infiltration Cellular, Histiocyte | | 2 | | | | | 2 | | | | | 2 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | 1 | | | | | | |
| Inflammation | | 1 | | | | | | | | | | | | |
| Nose | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | | | |
| Inflammation | | 21 | | | | | | | | | | | | |
| Nasolacrim Dct, Inflammation | | 2 | | | | | 2 | | | | | 1 | | | | | 2 | | | | | 1 | | | | | 2 | | | | | 2 | | | | | | |
| Olfactory Epi, Hyaline Droplet | | 1 | | | | | | | | | | | | |
| Respirat Epith, Hyperplasia | | | | | | | | | | | | | | |
| Trachea | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Inflammation | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | |
| Special Senses System | | | | | | | | | | | | | | |
| Eye | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Bilateral, Retina, Degeneration | | 2 | | | | | | | | | | | | |
| Cornea, Inflammation | | | | | | | | | | | | | | |
| Retina, Degeneration | | 2 | | | | | | | | | | | | |
| Harderian Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |
| Atrophy, Focal | | 1 | | | | | | | | | | | | |
| Hyperplasia | | 2 | | | | | | | | | | | | 11 | |
| Infiltration Cellular, Lymphocyte | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | | 2 | | | | | | | | | | | | |
| Inflammation | | 11 | | | | | | | | | | | | | | | | 2 | |
| Urinary System | | | | | | | | | | | | | | |
| Kidney | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:50
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 0PPB

| DAY ON TEST | 0 | 0 |
|-------------|---------|
| | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| ANIMAL ID | 0 | 0 |
| | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 0 | 5 | 5 | 5 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 9 | 4 | 5 | 6 | 7 | 7 | 8 | 0 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 3 |
| | *TOTALS | |

Alimentary System

| | |
|-----------------------------------|--------|
| Esophagus | + | 51 |
| Intestine Large, Cecum | + | 51 |
| Intestine Large, Colon | + | 51 |
| Intestine Large, Rectum | + | 51 |
| Intestine Small, Duodenum | + | 51 |
| Intestine Small, Ileum | + | 51 |
| Intestine Small, Jejunum | + | 51 |
| Liver | + | 51 |
| Angiectasis | | | 1 | | | | | | | | | | | | | | | | | 2 | 2 1.5 |
| Basophilic Focus | 1 |
| Bile Duct, Hyperplasia | | | 1 | 2 | 1 | | 1 | | | | | 1 | 2 | | | | 1 | | 2 | | 13 1.4 |
| Capsule, Hemorrhage, Focal | 2 2.0 |
| Cyst Multilocular | | | | | | | | | | | | | | X | | | | | | | 3 |
| Degeneration, Cystic | 1 2.0 |
| Eosinophilic Focus | 1 |
| Hematopoietic Cell Proliferation | | | | | | | | | 1 | | | | | | | | | | | | 2 1.0 |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | X | | 1 |
| Infiltration Cellular, Lymphocyte | | | | | 1 | 1 | | | | | | | | | | | 1 | | | | 3 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | 1 | | | | 1 | | 6 1.0 |
| Periportal, Inflammation, Chronic | | | | | | | 1 | | 1 | | | | | | | | | | 1 | | 3 1.0 |
| Vacuolization Cytoplasmic | | | | | 2 | 2 | | 2 | | | | | 2 | | | | | | | 2 | 12 2.2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:51
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 0PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 0 | 5 | 5 | 5 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 9 | 4 | 5 | 6 | 7 | 7 | 8 | 0 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Mesentery | 2 | | | | | | | | | | | | | | | | | | | |
| Fat, Necrosis | 2 2.0 | | | | | | | | | | | | | | | | | | | |
| Oral Mucosa | 3 | | | | | | | | | | | | | | | | | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Acinar Cell, Degeneration | 2 3 1 3 1 2 1 2 20 2.0 | | | | | | | | | | | | | | | | | | | |
| Lipomatosis | 1 2.0 | | | | | | | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Inflammation, Chronic | 1 3.0 | | | | | | | | | | | | | | | | | | | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Edema | 1 2.0 | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | 2 2.5 | | | | | | | | | | | | | | | | | | | |
| Inflammation | 1 2.0 | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Cardiovascular System | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Cardiomyopathy | 2 2 1 2 2 2 2 1 1 1 23 1.5 | | | | | | | | | | | | | | | | | | | |
| Endocrine System | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Angiectasis | 2 2.0 | | | | | | | | | | | | | | | | | | | |
| Atrophy | 3 2 2.5 | | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | 2 | 4 | 1 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 3 | 3 | 4 | 3 | 1 | 4 | 3 | 4 | 3 |
| | 46 2.8 | | | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + ..Tissue examined microscopically M ..Missing tissue 1-4 ..Lesion qualified as:
 X ..Lesion present A ..Autolysis precludes evaluation 1) Minimal 3) Moderate
 I ..Insufficient tissue BLANK ..Not examined microscopically 2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:51
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 0PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 0 | 5 | 5 | 5 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 9 | 4 | 5 | 6 | 7 | 7 | 8 | 0 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Duct, Dilatation | | | | | | | | 2 | | | | | | 2 | | | | | | 11 2.1 |
| Duct, Hyperplasia, Squamous | | | | 2 | | | | | | | | | | | | | | | 4 | 2 3.0 |
| Inflammation | | 2 | 1 | 4 | 2 | | | | | 1 | | | | 2 | 1 | 2 | 1 | | 3 | 34 2.1 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Atrophy | 4 | 4 | 2 | 4 | 2 | 2 | 3 | 3 | 2 | 4 | 2 | 2 | 2 | 4 | | 3 | 2 | 1 | 2 | 49 2.7 |
| Corpus Luteum, Cyst | | | | | | | | | | | | | | | | | | | | 1 |
| Cyst | | | | X | | | X | | | | | X | | | | X | X | | X | 15 |
| Hyperplasia, Sertoliform | 1 | 2 | 1 | 2 | | 1 | 3 | 2 | | 2 | 2 | 1 | 3 | | | 2 | | 1 | 1 | 23 1.5 |
| Oviduct | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Atrophy | | | 3 | | | | | | | | | | | | | | | | 2 | 4 2.3 |
| Dilatation | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Endometrium, Hyperplasia | | | | | | | 1 | | | | | | | | | | | 2 | | 2 1.5 |
| Endometrium, Hyperplasia, Cystic | 2 | 1 | | 2 | | 1 | | | | 3 | | | | | 3 | | | | 2 | 15 1.9 |
| Hyperplasia, Atypical, Focal | 1 | | | | | | | | | 1 | | | | | | 1 | | | | 6 1.0 |
| Inflammation | | | | | | 1 | | | | | | | | | | | 2 | | | 2 1.5 |
| Metaplasia, Squamous | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Pigmentation, Focal | | | | | | | | | | | | | 2 | | | | | | | 1 2.0 |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Inflammation | | | | | | | | | | | | | | | | | 1 | | 2 | 12 1.7 |
| Mucocyte, Hyperplasia | 1 | 2 | 3 | 1 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | | 3 | 3 | | 3 | 2 | 43 2.5 |

Hematopoietic System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:52

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female

F1 0PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | | ANIMAL ID | |
|---|-------------|-----------|---------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | |
| | 7 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | |
| | 0 | 0 | |
| | 0 | 0 | |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | 0 | 5 | 5 | 5 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | |
| | 9 | 4 | 5 | 6 | 7 | 7 | 8 | 0 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | | |
| | | | *TOTALS |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 51 |
| Hyperplasia | | | 1 2.0 |
| Lymph Node | | + | | + | | | + | + | | + | + | | | | | | | + | + | + | | 16 |
| Axillary, Degeneration, Cystic | | | | | | | | | | | | 2 | | | | | | | | | | 1 2.0 |
| Axillary, Infiltration Cellular, Plasma Cell | | | | | | | | | | | 3 | 3 | | | | | | | | | | 2 3.0 |
| Deep Cervical, Infiltration Cellular, Plasma Cell | | | | | 4 | | | | | | | | | | | | | | | | | 1 4.0 |
| Hyperplasia, Lymphoid | | | 1 4.0 |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | 3 | | | | | | | | | | | 1 3.0 |
| Inguinal, Hyperplasia, Lymphoid | | | 1 4.0 |
| Inguinal, Infiltration Cellular, Plasma Cell | | | 1 3.0 |
| Lumbar, Degeneration, Cystic | | 4 | | 2 | | | 3 | 3 | | 3 | 3 | | | | | | | | 3 | 3 | | 12 3.0 |
| Lumbar, Hyperplasia, Lymphoid | | | | | | | 2 | 2 | | 2 | | | | | | | | | | 3 | | 5 2.4 |
| Lumbar, Infiltration Cellular, Plasma Cell | | 3 | | 2 | | | 3 | 2 | | 3 | 2 | | | | | | | | 3 | 3 | | 10 2.7 |
| Mediastinal, Hyperplasia, Lymphoid | | | 1 2.0 |
| Mediastinal, Pigmentation | | | 1 2.0 |
| Pancreatic, Pigmentation | | | 1 2.0 |
| Popliteal, Degeneration, Cystic | | | | | | | 2 | | | | | | | | | | | | | | | 1 2.0 |
| Popliteal, Hyperplasia, Lymphoid | | | | | | | 2 | | | | | | | | | | | 2 | | | | 2 2.0 |
| Popliteal, Infiltration Cellular, Plasma Cell | | | | | | | 4 | | | | | | | | | | | 2 | | | | 2 3.0 |
| Renal, Degeneration, Cystic | | | 1 2.0 |
| Renal, Infiltration Cellular, Plasma Cell | | | 1 4.0 |
| Thoracic, Infiltration Cellular, Plasma Cell | | | | | 2 | | | | | | | | | | | | | | | | | 1 2.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

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A ..Autolysis precludes evaluation

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CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:52
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 0PPB

| CD Rat Female
F1 OPPB | | DAY ON TEST | | *TOTALS | |
|------------------------------------|--|-------------|----|---------|-----|
| | | | | | |
| | | | | | |
| | | | | | |
| ANIMAL ID | | 0 | 0 | | |
| | | 7 | 7 | | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | |
| | | 7 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | | |
| | | 0 | 0 | | |
| | | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 0 | 5 | 5 | 5 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | | |
| | | 9 | 4 | 5 | 6 | 7 | 7 | 8 | 0 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | | | |
| Lymph Node, Mandibular | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 | | |
| Degeneration, Cystic | | | | | | 2 | | | | 2 | 2 | 2 | 2 | | 2 | | 2 | | | 4 | | 16 | 2.1 | |
| Hemorrhage | | | | | | | | | | | | | | 2 | | | | | | | | 1 | 2.0 | |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | 2 | | | | | | | | | 4 | 2.0 | |
| Infiltration Cellular, Plasma Cell | | | | 2 | 2 | 2 | 3 | 2 | 2 | | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 43 | 2.3 |
| Lymph Node, Mesenteric | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | 2 | | | | | 1 | 2.0 | |
| Depletion Lymphoid | | | | | | | | | | | | | | | 2 | | | | | | | 1 | 2.0 | |
| Hyperplasia, Lymphoid | | | | | | | | | | 2 | | | | | | | | | | | | 5 | 2.0 | |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | 2 | | | | | 2 | | 2 | | | | 5 | 2.0 | |
| Pigmentation | | | | | | | | | | | 2 | | | | | 2 | | | | | | 2 | 2.0 | |
| Spleen | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 | | |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | 2 | | | 2 | 2 | | | | | | 15 | 1.9 | |
| Pigmentation | | 2 | 1 | 2 | | 1 | 3 | | 2 | 2 | 3 | | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 1 | 33 | 1.9 | |
| Red Pulp, Atrophy | | | | | | | | | | | | | 2 | | | | | | | | | 1 | 2.0 | |
| Thymus | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 | | |
| Cyst | | X | | | | | | | | | X | | | | | X | X | | | | | 17 | | |
| Integumentary System | | | | | |
| Mammary Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 | | |
| Alveolus, Hyperplasia | | 2 | 3 | 3 | 1 | | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | 1 | 42 | 2.1 | |
| Atypical Focus | | | | 1 | | | | 2 | 1 | | | | 2 | 1 | | 1 | | 2 | 2 | | 2 | 19 | 1.5 | |
| Duct, Dilatation | | | | | | | | | | | | | | | | 2 | | | | | | 3 | 2.0 | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:52
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 0PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 0 | 5 | 5 | 5 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 |
| | 9 | 4 | 5 | 6 | 7 | 7 | 8 | 0 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 |
| | | | | | | | | | | | | | | | | | | | | *TOTALS |
| Galactoceles | | | | | | | | | | | | | | | | | | | | 2 |
| Lactation | 2 | 2 | | 1 | | | | 2 | | 2 | 1 | | | 2 | 1 | 2 | | | 2 | 26 2.0 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Abscess | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Inflammation | | 4 | 4 | 4 | | | 4 | | | 4 | | 4 | 3 | | 4 | | | 4 | 4 | 23 3.6 |
| Musculoskeletal System | | | | | | | | | | | | | | | | | | | | |
| Bone, Femur | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | 1 |
| Nervous System | | | | | | | | | | | | | | | | | | | | |
| Brain, Brain Stem | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Compression | 2 | | | 2 | | 3 | 1 | | 1 | 1 | 2 | 2 | | | 3 | | | 2 | 3 | 26 2.4 |
| Brain, Cerebellum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Hydrocephalus | | | | | | 1 | | | | | | | | | | | | | | 2 1.5 |
| Brain, Cerebrum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Hydrocephalus | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | 1 |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | 0 |
| Respiratory System | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 51 |
| Alveolar Epith, Hyperplasia | | | | | | | | | 2 | | | | | | | | | | | 1 2.0 |
| Hemorrhage | | | | | | | | | 3 | | | | | | | | | | | 1 3.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:53
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 OPPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 0 | 5 | 5 | 5 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 |
| | 9 | 4 | 5 | 6 | 7 | 7 | 8 | 0 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 |
| | *TOTALS |
| Infiltration Cellular, Histiocyte | | | | 2 | 1 | | | | 1 | 2 | | | | | | | | | | |
| Inflammation | | | | | 1 | | | | | 2 | | | | | | | | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | 3 | |
| Inflammation | | | | | | | | | | | 2 | 2 | | | | | | | | |
| Nasolacrim Dct, Inflammation | 2 | 2 | 2 | 1 | 2 | 1 | 1 | | 2 | | 2 | | 2 | | 1 | | 1 | 2 | | 2 |
| Olfactory Epi, Hyaline Droplet | | | | | | | | | | 2 | | | | | | 3 | 1 | | | |
| Respirat Epith, Hyperplasia | | | | | | | | 2 | | | | | | | | | | | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation | |
| | |
| Special Senses System | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Bilateral, Retina, Degeneration | | | | 2 | | | | | | | | | | | | | | | | |
| Cornea, Inflammation | | | | | | | 2 | | | | | | | | | | | | | |
| Retina, Degeneration | | | | | 2 | | | | | | 2 | | | | | | | | | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Atrophy, Focal | | | | | | | | | | | | | | | | | | | 2 | |
| Hyperplasia | |
| Infiltration Cellular, Lymphocyte | |
| Inflammation | | | | | | | | 1 | | | | | 1 | 1 | 1 | | | | | |
| Urinary System | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:53
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 0PPB

| DAY ON TEST | 0 |
|-----------------------------------|---------|
| ANIMAL ID | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 8 | 8 | 8 | 8 | 9 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 |
| | 0 |
| | 0 |
| | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 0 | 5 | 5 | 5 | 5 | 0 | 0 | 1 | 5 | 0 | 0 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 |
| | 9 | 4 | 5 | 6 | 7 | 7 | 8 | 0 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 3 |
| | *TOTALS |
| Cyst | 15 |
| Epithelium, Pelvis, Hyperplasia | 1 1.0 |
| Hemorrhage | 3 1 3.0 |
| Inflammation | 2 1 2.0 |
| Mineralization | 2 | 2 | 1 | 1 | | 2 | 1 | 2 | 2 | 2 | 3 | | | 1 | | | 2 | | | 2 | 31 1.8 |
| Nephropathy | | 1 | 1 | | 1 | 2 | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 | 1 | 2 | 1 | | 1 | 27 1.2 |
| Urinary Bladder | + | 51 |
| Infiltration Cellular, Lymphocyte | | 1 2 1.5 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:28:54

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1 2PPB

DAY ON TEST

ANIMAL ID

[illegible]

Inflammation, Chronic Active

Periportal, Inflammation, Chronic

Right Lat Lobe, Developmental Malformation

Vacuolization Cytoplasmic

Mesentery

Fat, Necrosis

Oral Mucosa

Pancreas

Acinar Cell, Degeneration

Inflammation, Chronic

Lipomatosis

Salivary Glands

Inflammation, Chronic

Stomach, Forestomach

Hyperplasia

Inflammation

Stomach, Glandular

Infiltration Cellular, Lymphocyte

Cardiovascular System

Blood Vessel

Heart

Cardiomyopathy

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:28:56
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Female
F1 2PPB

| CD Rat Female
F1 2PPB | | DAY ON TEST | ANIMAL ID | |
|-------------------------------|--|-------------|-----------|
| | | 0 | 0 | 0 | |
| | | 0 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 8 | 4 | 6 | 9 | 0 | 6 | 9 | 9 | 0 | 2 | 4 | 4 | 5 | 6 | 6 | 7 | 8 | 8 | 9 | 0 | 0 | 1 | 2 | 3 | 2 | 3 | 4 | 5 | 5 | 5 | 5 | 5 | |
| | | 7 | 9 | 8 | 9 | 4 | 3 | 5 | 4 | 2 | 4 | 4 | 3 | 2 | 7 | 7 | 8 | 4 | 6 | 1 | 2 | 5 | 2 | 9 | 0 | 8 | 9 | 7 | 6 | 6 | 6 | 6 | 6 | |
| | | 0 | 0 | 0 |
| | | 0 | 0 | 0 |
| | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| | | 0 | 2 | 5 | 6 | 6 | 0 | 3 | 3 | 5 | 6 | 9 | 9 | 0 | 2 | 2 | 5 | 6 | 6 | 7 | 0 | 0 | 1 | 4 | 4 | 5 | 7 | 9 | 0 | 0 | 1 | 1 | 1 | 1 |
| | | 2 | 3 | 1 | 1 | 4 | 4 | 4 | 6 | 1 | 9 | 0 | 4 | 9 | 7 | 9 | 0 | 7 | 9 | 6 | 7 | 9 | 6 | 7 | 6 | 2 | 9 | 4 | 8 | 9 | 0 | 1 | 1 | 1 |
| Urinary Bladder | | + | + | + | M | + | + | + | + | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:57
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 2PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 1 | 1 | 1 | 1 | 6 | 6 | 6 |
| | 0 | 1 | 2 | 3 | 4 | 0 | 1 | 8 | 9 | 1 | 2 | 8 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | | | | | | | | | | 1 | 1.0 |
| Periportal, Inflammation, Chronic | | | 1 | 1 | | 1 | | 1 | | | | | | | 1 | | | 7 | 1.3 |
| Right Lat Lobe, Developmental Malformation | | | | | | | | | | | | | | | | | | 1 | |
| Vacuolization Cytoplasmic | | | 2 | 1 | | | | 2 | | 2 | | | 1 | | | | | 8 | 1.8 |
| Mesentery | | | | | | | | | | | | | | | | | | 2 | |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | 1 | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Acinar Cell, Degeneration | 2 | | 2 | 1 | 1 | | | | 2 | | 2 | 2 | 3 | | | 2 | | 1 | 1 |
| Inflammation, Chronic | | | 1 | | | | | | | | | | | | | | | 7 | 1.1 |
| Lipomatosis | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | 2 | 3.0 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | 2 | 2.0 |
| Inflammation | | | | | | | | | | | | | | | | | | 4 | 2.3 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Cardiovascular System | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Cardiomyopathy | | | | 2 | | | 1 | 2 | 1 | 2 | | 2 | 1 | 1 | | 1 | | 18 | 1.4 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:57
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 2PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|----------------------------|---------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 1 | 1 | 1 | 1 | 6 | 6 | 6 | 6 |
| | 0 | 1 | 2 | 3 | 4 | 0 | 1 | 8 | 9 | 1 | 2 | 8 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 6 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Myocardium, Necrosis | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Endocrine System | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | | 50 |
| Angiectasis | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Degeneration, Cystic | 3 | 1 | 1 | 3 | 2 | 4 | 2 | 2 | 2 | 2 | 4 | 2 | 3 | 2 | | 2 | 3 | 2 | 3 | 43 2.6 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 3 2.0 |
| Hypertrophy | 3 | | 2 | | | | | | | | | | 2 | | | | | | | 11 2.1 |
| Adrenal Medulla | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | | 50 |
| Islets, Pancreatic | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | | 50 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Parathyroid Gland | + + + M + + + + + + + + M + + + + M + | | | | | | | | | | | | | | | | | | | 47 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Pituitary Gland | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | | 50 |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | 2 |
| Pars Distalis, Hyperplasia | | | | | | | | | | | | | | | | | | | | 3 1.7 |
| Pars Intermed, Cyst | | | | | | | | | | | | | | | | | | | | 3 |
| Thyroid Gland | + + + + + + + + + + + + + + + + + + + | | | | | | | | | | | | | | | | | | | 50 |
| C Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | 4 1.5 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Ultimobranchial Cyst | | | | | | | | | | | | | | | | | | | | 4 3.0 |
| General Body System | | | | | | | | | | | | | | | | | | | | |
| NONE | | | | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + ..Tissue examined microscopically
 X ..Lesion present
 I ..Insufficient tissue
 M ..Missing tissue
 A ..Autolysis precludes evaluation
 BLANK ..Not examined microscopically
 1-4 ..Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:57
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 2PPB

| CD Rat Female
F1 2PPB | | DAY ON TEST | | | | | | | | | | | | | | | | | | | *TOTALS | |
|----------------------------------|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|---------|-----|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | |
| ANIMAL ID | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 6 | 6 | 6 | 6 | 6 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 1 | 1 | 1 | 1 | 6 | 6 | 6 | | |
| | | 0 | 1 | 2 | 3 | 4 | 0 | 1 | 8 | 9 | 1 | 2 | 8 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Genital System | | | | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | |
| Atrophy | | | 2 | 3 | | | | | | | | | 3 | | | | | | | 6 | 2.3 | |
| Duct, Dilatation | | | 2 | 3 | 2 | | 3 | | 2 | | | 3 | 3 | | | | | | | 12 | 2.4 | |
| Duct, Hyperplasia, Squamous | | | | | | | | | | | | | | | | | | | | 1 | 3.0 | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 2 | 1.5 | |
| Inflammation | | 1 | 2 | 1 | 3 | | 2 | | 3 | | 1 | 3 | | | 2 | 2 | 3 | 2 | | 33 | 2.2 | |
| Ovary | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Angiectasis | | | | | | | | | | | | | 1 | | | | | | | 1 | 1.0 | |
| Atrophy | | 4 | 2 | 1 | 3 | 2 | 3 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 2 | 4 | 47 | 3.1 |
| Corpus Luteum, Cyst | | | | | | | | | | | | | | | | | | | | 2 | | |
| Cyst | | | X | | X | | | | X | | | | X | X | X | | | | | 9 | | |
| Hyperplasia, Sertoliform | | 1 | 1 | | | 1 | | | | | | | | 1 | | | 1 | 2 | | 2 | 17 | 1.5 |
| Interstit Cell, Hyperplasia | | | | | | | 3 | | | | | | | | | | | | | 1 | 3.0 | |
| Oviduct | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Uterus | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Atrophy | | | | | | | | | | | | | | | | 2 | | | | 1 | 2.0 | |
| Endometrium, Hyperplasia | | | | | | | 1 | | | | | 2 | | | 2 | | 2 | | | 7 | 1.7 | |
| Endometrium, Hyperplasia, Cystic | | | | | | | | | | | | 2 | 3 | 3 | | | | 2 | | 3 | 14 | 2.1 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Hyperplasia, Atypical, Focal | | | | | 1 | | | | 1 | | | | 2 | | | | | | | 14 | 1.4 | |
| Hypoplasia | | | | | | | | | | | | | | | | | | | | 1 | 3.0 | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:58
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 2PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 1 | 1 | 1 | 1 | 6 | 6 | 6 |
| | 0 | 1 | 2 | 3 | 4 | 0 | 1 | 8 | 9 | 1 | 2 | 8 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Depletion Lymphoid | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia, Lymphoid | | | | | 2 | | | | | | | | | | | | | | 3 2.3 |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | 3 2.3 |
| Pigmentation | | | | | 2 | | | | | | | | | | | | | | 1 2.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hematopoietic Cell Proliferation | 1 | | | 1 | 2 | | | 2 | 2 | | | 2 | 2 | 2 | | | 2 | | 22 1.9 |
| Hyperplasia, Stromal | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Lymphocyte, Atrophy | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pigmentation | 1 | | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | | | 3 | 2 | 1 | 2 | 2 | 2 | 31 2.0 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | 44 |
| Cyst | X | | X | X | | X | X | | | X | | X | | | | | X | | 18 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Integumentary System | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Alveolus, Hyperplasia | 4 | 2 | 3 | 2 | 3 | 4 | 2 | 3 | 3 | 1 | 2 | 2 | 2 | 4 | | 3 | 2 | 3 | 38 2.4 |
| Atypical Focus | 2 | | 3 | 2 | 2 | 2 | | 2 | 2 | 1 | | 1 | 1 | 3 | 1 | 1 | | 2 | 23 1.8 |
| Duct, Dilatation | 3 | | | | | | | | 2 | | | | | 3 | | | | | 5 2.8 |
| Galactoceles | X | | | | | | | | | | | | | X | | | | | 2 |
| Lactation | 3 | | 2 | 2 | | 3 | 2 | 2 | 3 | 2 | | 2 | 1 | 3 | 1 | | 2 | | 32 2.1 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

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

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:58
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 2PPB

| CD Rat Female
F1 2PPB | | DAY ON TEST | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | | | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| | | 6 | 6 | 6 | 6 | 6 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 1 | 1 | 1 | 1 | 6 | 6 | 6 | | | |
| | | 0 | 1 | 2 | 3 | 4 | 0 | 1 | 8 | 9 | 1 | 2 | 8 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | | | |
| | | *TOTALS | | | | | | | | | | | | | | | | | | | | | |
| Inflammation | | 4 | | | | 3 | | | | 4 | 3 | | | | 4 | 4 | | | | 3 | 4 | 16 | 3.4 |
| Musculoskeletal System | | | | | | | | | | | | | | | | | | | | | | | |
| Bone, Femur | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Nervous System | | | | | | | | | | | | | | | | | | | | | | | |
| Brain, Brain Stem | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Compression | | 2 | | 2 | | | | | | 2 | 3 | | | 2 | 3 | 3 | | 2 | 2 | 3 | 26 | 2.7 | |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Brain, Cerebellum | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Brain, Cerebrum | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Hydrocephalus | | | | | | | | | | | | | | | | | | | | | 2 | 2.0 | |
| Respiratory System | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Alveolar Epith, Hyperplasia | | | | | | | | 1 | | | | | | | | | | | | | 1 | 1.0 | |
| Artery, Mineralization | | | | | | | | 1 | | | | | | | | | | | | | 1 | 1.0 | |
| Edema | | | | | | | | | | | | | | 1 | | | | | | | 1 | 1.0 | |
| Infiltration Cellular, Histiocyte | | | | | | 2 | | 2 | | | | | | | | | | 2 | | | 10 | 1.9 | |
| Inflammation | | | | | | | | | | 2 | | | | | | | | | | | 1 | 2.0 | |
| Peribronchial, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 | |
| Perivascular, Inflammation | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Nose | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | 1 | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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1) Minimal 3) Moderate

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:59
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1 2PPB**

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 6 | 6 | 6 | 6 | 6 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 1 | 1 | 1 | 1 | 6 | 6 | 6 | 6 |
| | 0 | 1 | 2 | 3 | 4 | 0 | 1 | 8 | 9 | 1 | 2 | 8 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 6 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Goblet Cell, Hyperplasia | | | | | | | | | | | | | | | | | 2 | 1 | 2 | 1.5 |
| Hemorrhage | | | | | | | | | 4 | | | | | | | | | | 1 | 4.0 |
| Inflammation | | | | | | | | | | | | 2 | | | | | | 1 | 5 | 2.0 |
| Nasolacrim Dct, Inflammation | 2 | 2 | 2 | 2 | 1 | 2 | | 1 | 2 | | 1 | 2 | | 2 | 2 | 2 | | 2 | 29 | 1.8 |
| Olfactory Epi, Hyaline Droplet | | | | | | | | | | | | | | | | | | | 1 | 5 1.2 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Special Senses System | | | | | | | | | | | | | | | | | | | | |
| Ear | | | | | | | | | | | | | | | | | | | | 1 |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Bilateral, Retina, Degeneration | | | 3 | | | | | | | | 1 | | | 3 | | | | | | 5 2.0 |
| Cataract | X | | | | | | | | | | | | | | | | | | | 1 |
| Retina, Degeneration | | | | | 2 | | | | | | | | | | | | | | | 1 2.0 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Hyperplasia | | | | | | | | | | | 2 | | | | | | | | | 2 2.0 |
| Infiltration Cellular, Lymphocyte | | | | 1 | | | | 2 | | | | | | | | | | | | 2 1.5 |
| Inflammation | | | | | | | | | 1 | | | | 2 | | 1 | 1 | | | 1 | 10 1.3 |
| Urinary System | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst | | | | | | | | X | | | X | X | X | | X | | | X | X | 16 |
| Inflammation | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Mineralization | 1 | 2 | 2 | 3 | | | 2 | 2 | 2 | | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 33 2.0 |
| Nephropathy | 1 | 2 | | 1 | | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | | | | 1 | 21 1.4 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:28:59
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 2PPB

| | DAY ON TEST | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------|-------------|-----------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 |
| | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | | 6 | 6 | 6 | 6 | 6 | 1 | 1 | 5 | 5 | 1 | 1 | 5 | 1 | 1 | 1 | 6 | 6 | 6 |
| | | | 0 | 1 | 2 | 3 | 4 | 0 | 1 | 8 | 9 | 1 | 2 | 8 | 0 | 1 | 2 | 3 | 4 | 5 |
| | | | *TOTALS | | | | | | | | | | | | | | | | | |
| Urinary Bladder | | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| | | | 49 | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 10 PPB

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
2
7
5 | 0
3
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1 | 0
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5 | 0
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0
6
8 | 0
0
0
6
9 |

Tissue NOS

+

Genital System

Clitoral Gland

Atrophy

Duct, Dilatation

Duct, Hyperplasia, Squamous

Hyperplasia

Inflammation

Ovary

Atrophy

Corpus Luteum, Cyst

Cyst

Hyperplasia, Sertoliform

Interstit Cell, Hyperplasia

Oviduct

Uterus

Atrophy

Endometrium, Hyperplasia

Endometrium, Hyperplasia, Cystic

Hyperplasia, Atypical, Focal

Metaplasia, Squamous

Vagina

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

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Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 10 PPB

DAY ON TEST

ANIMAL ID

| | |
|-----------------------|------------------|
| 0
2
7
5 | 0
3
9
1 | 0
5
3
8 | 0
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9 | 0
5
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2 | 0
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3 | 0
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4 | 0
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6
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7 | 0
6
7
7 | 0
6
8
8 | 0
6
9
5 | 0
7
0
1 | 0
7
0
3 | 0
7
0
9 | 0
7
1
5 | 0
7
2
5 | 0
7
2
7 | 0
7
3
0 | 0
7
3
4 | 0
7
3
7 | 0
7
5
6 |
| 0
0
0
1
7 | 0
0
0
3
4 | 0
0
0
8
3 | 0
0
0
8
9 | 0
0
0
9
3 | 0
0
1
1
2 | 0
0
1
1
5 | 0
0
1
2
7 | 0
0
1
5
0 | 0
0
0
1
2 | 0
0
0
7
5 | 0
0
0
8
1 | 0
0
0
9
3 | 0
0
0
2
5 | 0
0
0
2
8 | 0
0
0
2
4 | 0
0
0
6
7 | 0
0
0
8
2 | 0
0
2
8
9 | 0
0
2
9
6 | 0
0
3
1
2 | 0
0
3
3
3 | 0
0
3
3
8 | 0
0
3
4
5 | 0
0
3
5
5 | 0
0
3
5
8 | 0
0
4
6
9 | |

Inflammation

Mucocyte, Hyperplasia

Hematopoietic System

Bone Marrow

Lymph Node

Lumbar, Degeneration, Cystic

Lumbar, Hyperplasia, Lymphoid

Lumbar, Infiltration Cellular, Plasma Cell

Mediastinal, Hemorrhage

Popliteal, Degeneration, Cystic

Popliteal, Hyperplasia, Lymphoid

Popliteal, Infiltration Cellular, Plasma Cell

Lymph Node, Mandibular

Degeneration, Cystic

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Lymph Node, Mesenteric

Degeneration, Cystic

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Spleen

Hematopoietic Cell Proliferation

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:02
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 10 PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 6 | 4 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| | 1 | 5 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 6 |
| | 6 | 3 | 8 | 9 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 1 | 2 | 8 | 9 | 8 |
| *TOTALS |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Inflammation | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Developmental Malformation | | | | | | | | | | | | | | | | | | | 1 |
| Mineralization | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Muscularis, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Dilatation | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Angiectasis | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Basophilic Focus | | | | | | | | | | X | | | | | | | | | 1 |
| Bile Duct, Hyperplasia | | 2 | | | 2 | 1 | | | 1 | | 1 | | | | 1 | | | | 10 1.3 |
| Centrilobular, Necrosis | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Cyst Multilocular | | | | | | | | | | | | | | | X | | | | 1 |
| Eosinophilic Focus | | | | | | | | | | | | | | | | | | | 1 |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | | | 1 | | | | | 3 1.7 |
| Infiltration Cellular, Lymphocyte | | | 1 | | | | | | | | | | | | | | | | 1 1.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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Experiment Number: 99920-94
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 Route: DOSED FEED
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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:02
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 10 PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 6 | 4 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 1 | 5 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 6 | 6 |
| | 6 | 3 | 8 | 9 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 1 | 2 | 8 | 9 | 8 | 8 |
| | *TOTALS |
| Inflammation, Chronic Active | | | | | | | 1 | | | | | | 1 | | | | 1 | | | |
| Periportal, Inflammation, Chronic | | | | 1 | 1 | | | | | 1 | 1 | | | | | 1 | | | | |
| Tension Lipidosis | |
| Vacuolization Cytoplasmic | | | | | | | 1 | 3 | 2 | | | | 2 | | | | | | | |
| Oral Mucosa | | | | | | | | | | | | | | | | | + | | | |
| Keratin Cyst | | | | | | | | | | | | | | | | | X | | | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Acinar Cell, Degeneration | | 1 | | | 3 | 1 | 2 | | | | 2 | | | 2 | | | 3 | 3 | 4 | |
| Artery, Mineralization | |
| Lipomatosis | | | | | | | 2 | | | | | | | | | | | | | |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Artery, Mineralization | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Edema | |
| Inflammation | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Glands, Dilatation | | | | | | | | | | | | | 3 | | | | | | | |
| Mineralization | |
| Cardiovascular System | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |
| Mineralization | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:03
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 10 PPB

| CD Rat Female
F1 10 PPB | | DAY ON TEST | | | | | | | | | | | | | | | | | | | ANIMAL ID | | *TOTALS | |
|--------------------------------|--|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------|-----|---------|--|
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | | | |
| | | 6 | 4 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | | | | |
| | | 1 | 5 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 6 | | | | |
| | | 6 | 3 | 8 | 9 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 1 | 2 | 8 | 9 | 8 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| Artery, Mineralization | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Cardiomyopathy | | | | | | | | | | | | | | | | | | | | | 10 | 1.3 | | |
| Endocrine System | | | | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Atrophy | | | | | | | | | | | | | | | | | | | | | 2 | 2.5 | | |
| Degeneration, Cystic | | 1 | 2 | 2 | | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 2 | 43 | 2.5 | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | |
| Hypertrophy | | | | | | | | | | | | | | | | | | | | | 7 | 1.9 | | |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Adrenal Medulla | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Islets, Pancreatic | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | 3 | 2.0 | | |
| Parathyroid Gland | | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | |
| Pituitary Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Cyst | | | | | | | | | | | | | | | | | | | | | 1 | | | |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | | 1 | | | |
| Pars Distalis, Hyperplasia | | 2 | | | | | | | | | | | | | | | | | | | 3 | 2.0 | | |
| Thyroid Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | | | |
| C Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 3 | 2.0 | | |
| Ultimobranchial Cyst | | | | | | | | | | | | | | | | | | | | | 1 | 3.0 | | |
| General Body System | | | | | | | | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:03
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 10 PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 6 | 4 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| | 1 | 5 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 6 |
| | 6 | 3 | 8 | 9 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 1 | 2 | 8 | 9 | 8 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Tissue NOS | 1 | | | | | | | | | | | | | | | | | | |
| Genital System | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Atrophy | | | 3 | 3 | | | | | | | | | | | | | | | 4 2.5 |
| Duct, Dilatation | | | 3 | 3 | | | 2 | | 2 | | | | | | | 2 | | | 10 2.3 |
| Duct, Hyperplasia, Squamous | | | | | | | | | | | | 2 | | | | | | | 2 2.0 |
| Hyperplasia | | | | | | | | | | | 2 | | | | | | | | 2 2.0 |
| Inflammation | 1 | | 1 | 1 | 1 | 2 | 2 | 2 | 2 | | | | 2 | 3 | | 2 | | 2 | 32 2.1 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Atrophy | 2 | 4 | 2 | 4 | 1 | 4 | 2 | 2 | 2 | 3 | 4 | 4 | 3 | 4 | 4 | 2 | | 4 | 46 3.2 |
| Corpus Luteum, Cyst | | | X | | | | | | | | | | | | | | | | 1 |
| Cyst | | X | | X | | | X | | | | | | X | | | | | | 17 |
| Hyperplasia, Sertoliform | | | | | 1 | | | | 1 | 1 | | 1 | | | | 1 | | 2 | 13 1.2 |
| Interstit Cell, Hyperplasia | | 3 | | | | 2 | | | | | | | | | | | | | 2 2.5 |
| Oviduct | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Atrophy | | | | 2 | | | | | | | | | | | | | | | 2 2.0 |
| Endometrium, Hyperplasia | | 3 | | | | | | | | 2 | 2 | | | | | | | | 3 2.3 |
| Endometrium, Hyperplasia, Cystic | | | | | 1 | | | | | | 3 | 1 | 2 | 2 | 2 | | 2 | | 20 1.9 |
| Hyperplasia, Atypical, Focal | 1 | 2 | | | | 1 | | | | | | | | 2 | 2 | | | 1 | 16 1.4 |
| Metaplasia, Squamous | | 1 | | | | | | | | | | | | 2 | 1 | | | | 8 1.4 |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:03

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1 10 PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 6 | 4 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 1 | 5 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 6 | 6 |
| | 6 | 3 | 8 | 9 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 1 | 2 | 8 | 9 | 8 | 8 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Inflammation | 1 | | | | | | | | | | | | | | | | | | | |
| Mucocyte, Hyperplasia | 3 | | 2 | | 2 | 3 | 2 | 3 | 2 | 1 | 3 | | 2 | 2 | 2 | 3 | 3 | 3 | 2 | |
| Hematopoietic System | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Lymph Node | | | + | | | | | | | | | | + | + | | | | + | + | 6 |
| Lumbar, Degeneration, Cystic | | | 3 | | | | | | | | | | | 3 | | | | 2 | | 3 2.7 |
| Lumbar, Hyperplasia, Lymphoid | | | 3 | | | | | | | | | | | | | | | 2 | 3 | 3 2.7 |
| Lumbar, Infiltration Cellular, Plasma Cell | | | 2 | | | | | | | | | | 3 | | | | | 4 | 3 | 5 2.8 |
| Mediastinal, Hemorrhage | | | | | | | | | | | | 2 | | | | | | | | 1 2.0 |
| Popliteal, Degeneration, Cystic | | | | | | | | | | | | | | | | | | | 3 | 1 3.0 |
| Popliteal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | 2 | 2 | 2 2.0 |
| Popliteal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | 3 | 4 | 2 3.5 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Degeneration, Cystic | | | | | 2 | 2 | | | 2 | | | | | | | 2 | | | | 8 2.0 |
| Hyperplasia, Lymphoid | 2 | | 2 | | 2 | | 2 | 2 | | | | | | | 2 | 2 | | | | 11 2.0 |
| Infiltration Cellular, Plasma Cell | 2 | 2 | | 3 | 2 | 3 | 2 | 2 | 2 | | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 3 | 43 2.3 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | 47 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Hematopoietic Cell Proliferation | | | 2 | 2 | | | | | | 2 | | 2 | | | | | | | | 10 2.1 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:03
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 10 PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 6 | 4 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 1 | 5 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 1 | 6 |
| | 6 | 3 | 8 | 9 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 1 | 2 | 8 | 9 | 8 | 8 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Pigmentation | 1 | 1 | 2 | 3 | 2 | 3 | 1 | | | | 3 | | 3 | 1 | 1 | 3 | 2 | | 1 | 34 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 45 |
| Cyst | X | | X | X | X | | X | X | X | | X | | X | X | | | | X | | 21 |
| Integumentary System | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Alveolus, Hyperplasia | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 1 | 2 | 1 | 4 | 2 | 2 | 3 | 2 | 3 | 2 | | 42 |
| Atypical Focus | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | | 3 | | 1 | 2 | 1 | 2 | | 21 |
| Galactoceles | | | | | | | | | | | X | | | | | | | | | 4 |
| Lactation | 1 | | | | 2 | 2 | | | | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | 31 |
| Lobules, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Inflammation | | | 4 | | | 4 | | 4 | 4 | 4 | | 3 | | | | | 4 | 4 | | 9 |
| Musculoskeletal System | | | | | | | | | | | | | | | | | | | | |
| Bone, Femur | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Fibrous Osteodystrophy | | | | | | | | | | | | | | | | | | | | 1 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | 1 |
| Head, Hyalinization, Focal | | | | | | | | | | | | | | | | | | | | 1 |
| Nervous System | | | | | | | | | | | | | | | | | | | | |
| Brain, Brain Stem | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Compression | 3 | | 3 | | 2 | | | | | | 2 | | 3 | | | | 2 | | | 23 |
| Hemorrhage | | | | 2 | | | | | | | | | | | | | | | | 1 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 10 PPB

[illegible]

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:04
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 10 PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | 6 | 4 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 1 | 5 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 6 | 6 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 6 | 6 |
| | 6 | 3 | 8 | 9 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 1 | 2 | 8 | 9 | 8 | 8 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Bilateral, Retina, Degeneration | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Cataract | | | | | | | | | | | | | X | | | | | | | 1 |
| Retina, Degeneration | 2 | | 2 | 2 | | | | | | | | | | | | | | 2 | | 5 1.8 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Hyperplasia | | | | | | | | | | 1 | | | | | | | 2 | | | 4 1.5 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | 1 | | | | | 2 1.0 |
| Inflammation | 2 | 1 | | 1 | | | | | | | 1 | | | | | 1 | | | | 10 1.1 |
| Urinary System | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Cyst | | | | | | | | | X | | | | | | X | | | X | | 8 |
| Degeneration, Muroid | 1 | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Hydronephrosis | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Mineralization | | | 3 | 1 | 2 | 2 | 2 | 1 | | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | | 27 1.7 |
| Nephropathy | | | | 1 | 1 | | | | 1 | | 1 | | 1 | 1 | | | 1 | | | 18 1.3 |
| Polycystic Kidney | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:04

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1 50 PPB

DAY ON TEST

ANIMAL ID

| |
|---|
| 0 |
| 2 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 1 | 8 | 9 | 9 | 1 | 2 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 8 | 8 | 8 | 0 | 0 | 1 | 2 | 2 | 2 | 3 | 5 | 5 | 5 | 5 |
| 9 | 6 | 4 | 2 | 7 | 4 | 6 | 6 | 0 | 3 | 4 | 8 | 6 | 6 | 0 | 0 | 7 | 9 | 1 | 6 | 1 | 2 | 6 | 7 | 0 | 6 | 6 | 6 | 7 |
| 0 |
| 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 1 | 7 | 2 | 4 | 5 | 7 | 9 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 5 | 6 | 7 | 9 | 0 | 1 | 3 | 4 | 4 | 5 | 1 | 2 | 2 | 7 | 7 |
| 8 | 2 | 3 | 9 | 3 | 5 | 0 | 5 | 3 | 7 | 2 | 6 | 3 | 4 | 6 | 3 | 5 | 7 | 1 | 8 | 4 | 0 | 3 | 4 | 1 | 9 | 0 | 1 | 4 |

Alimentary System

[illegible]

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 50 PPB

DAY ON TEST

ANIMAL ID

[illegible]

Inflammation, Chronic Active

Periportal, Inflammation, Chronic

Tension Lipidosis

Vacuolization Cytoplasmic

Mesentery

Fat, Necrosis

Oral Mucosa

Gingival, Inflammation

Keratin Cyst

Pancreas

Acinar Cell, Degeneration

Acinar Cell, Hyperplasia

Inflammation, Chronic

Lipomatosis

Salivary Glands

Stomach, Forestomach

Edema

Hyperplasia

Ulcer

Stomach, Glandular

Inflammation

Cardiovascular System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:29:05
First Dose M/F: NA / NA
Lab: NCTR

CD Rat Female
F1 50 PPB

| | DAY ON TEST | |
|----------------------------------|-------------|
| | 0 | 0 |
| | 2 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 1 | 8 | 9 | 9 | 1 | 2 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 8 | 8 | 8 | 0 | 1 | 2 | 2 | 2 | 3 | 5 | 5 | 5 | 5 |
| | 9 | 6 | 4 | 2 | 7 | 4 | 6 | 6 | 0 | 3 | 4 | 8 | 6 | 6 | 0 | 0 | 7 | 9 | 1 | 6 | 1 | 2 | 6 | 7 | 0 | 6 | 6 | 7 |
| ANIMAL ID | 0 | 0 |
| | 0 | 0 |
| | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 |
| | 1 | 7 | 2 | 2 | 4 | 5 | 7 | 9 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 5 | 6 | 7 | 9 | 0 | 1 | 3 | 4 | 4 | 5 | 1 | 2 | 7 |
| | 8 | 2 | 3 | 9 | 3 | 5 | 0 | 5 | 3 | 7 | 2 | 6 | 3 | 4 | 6 | 3 | 5 | 7 | 1 | 8 | 4 | 0 | 3 | 4 | 1 | 9 | 0 | 6 |
| Blood Vessel | + | + |
| Heart | + | + |
| Cardiomyopathy | | | 2 | | 1 | | | | 1 | | | | | | | | | | | | | | | 2 | | 1 | | 1 |
| Endocrine System | |
| Adrenal Cortex | + | + |
| Angiectasis | | | | | | | | | | | | | | | 2 | | | | | | | | | 2 | | | | |
| Cyst | | | 4 | |
| Degeneration, Cystic | | | | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 1 | 2 | | 4 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | | 3 | 4 | 2 | 2 |
| Hematopoietic Cell Proliferation | | | 2 | |
| Hypertrophy | | | | | 2 | | | | | | | | | | 3 | 3 | | 2 | | | | | | | | | | |
| Adrenal Medulla | + | + |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Parathyroid Gland | + | + | + | M | + | + | + | + | + | M | + | M | + | + | + | + | + | + | + | M | + | + | + | + | + | + | M | + |
| Hyperplasia | | 2 | | | | | |
| Pituitary Gland | + | + |
| Pars Distalis, Cyst | | | | | X | |
| Pars Distalis, Hyperplasia | | 2 | | | | |
| Thyroid Gland | + | + |
| C Cell, Hyperplasia | | | 2 | | | | | | | 1 | | | | | | | | | | 3 | | | | | | | | |
| Follicular Cel, Hyperplasia | |
| Inflammation, Chronic | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | |
| Ultimobranchial Cyst | | 2 | | | 2 | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 50 PPB

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
2
8
9 | 0
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7 | 0
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4 | 0
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6 | 0
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1 | 0
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4 | 0
0
4
7
5 |

General Body System

NONE

Genital System

| |
|----------------------------------|
| Clitoral Gland | + | + | + | + | + | | + |
| Atrophy | | | | | | | 1 | | | | | | | | | | | | 2 | | | | | | | | | | | |
| Duct, Dilatation | | | | | | | | | | | | | 3 | | | | 3 | | 2 | | 2 | | | | | | | | 2 | |
| Inflammation | 2 | | | | | | 1 | 3 | | | | | 2 | | 2 | 3 | 3 | | 1 | | 3 | 2 | 3 | 2 | | 2 | | | 2 | 4 |
| Ovary | + |
| Atrophy | | 3 | 4 | 1 | 3 | 3 | 2 | 3 | 3 | 4 | 3 | 4 | 4 | 4 | 2 | 4 | 2 | 4 | 4 | 4 | 4 | | 1 | 4 | 4 | 4 | 2 | 4 | 3 | 2 |
| Corpus Luteum, Cyst |
| Cyst | | | | | | | | | X | X | X | | X | X | | | X | X | X | | X | X | | | X | X | | | X | |
| Granulosa Cell, Hyperplasia |
| Hyperplasia, Sertoliform | | 1 | | | | | | | 1 | | | | | | | | | | 1 | 2 | | | 1 | | 2 | 2 | 1 | 3 | 2 | |
| Oviduct | + |
| Uterus | + |
| Endometrium, Hyperplasia | | | | | | | | | | | | | | | | | | 3 | 2 | | 2 | | | | | | | 2 | 2 | |
| Endometrium, Hyperplasia, Cystic | | 2 | | | | | | | 3 | | | | 2 | | | | 2 | 2 | | 1 | | 2 | 1 | 3 | | | | | | |
| Hyperplasia, Atypical, Focal | | | | 1 | | | | | | | 3 | | 2 | | | 1 | 1 | | | 1 | | 2 | | 1 | 2 | 1 | | | | |
| Inflammation | | | | | | | | 1 | |
| Metaplasia, Squamous | | | | 1 | | | | | 1 | 2 | 2 | | 2 | | | | | | | | | | | | | 2 | 1 | | | |
| Vagina | + | M | + | + | + | + | + | |
| Inflammation | | | 2 | | | | | 2 | | | | | 3 | 1 | 2 | 2 | | 1 | 1 | | 3 | 2 | 1 | 1 | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

F1 50 PPB

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
2
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4
7
5 |

Mucocyte, Hyperplasia

Hematopoietic System

Bone Marrow

Lymph Node

Deep Cervical, Hyperplasia, Lymphoid

Deep Cervical, Infiltration Cellular, Plasma
Cell

Lumbar, Degeneration, Cystic

Lumbar, Hyperplasia, Lymphoid

Lumbar, Infiltration Cellular, Plasma Cell

Mediastinal, Hemorrhage

Mediastinal, Pigmentation

Pancreatic, Hemorrhage

Pancreatic, Pigmentation

Popliteal, Degeneration, Cystic

Popliteal, Infiltration Cellular, Plasma Cell

Lymph Node, Mandibular

Degeneration, Cystic

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Inflammation, Suppurative

Lymph Node, Mesenteric

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 50 PPB

DAY ON TEST

ANIMAL ID

[illegible]

Skeletal Muscle

Nervous System

Hemorrhage

Hydrocephalus

Respiratory System

Perivascular, Inflammation

Inflammation

I ..Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 50 PPB

DAY ON TEST

ANIMAL ID

| |
|---|
| 0 |
| 2 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 8 | 1 | 8 | 9 | 9 | 1 | 2 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 8 | 8 | 8 | 0 | 0 | 1 | 2 | 2 | 2 | 3 | 5 | 5 | 5 | 5 |
| 9 | 6 | 4 | 2 | 7 | 4 | 6 | 6 | 0 | 3 | 4 | 8 | 6 | 6 | 0 | 0 | 7 | 9 | 1 | 6 | 1 | 2 | 6 | 7 | 0 | 6 | 6 | 6 | 7 |
| 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 |
| 1 | 7 | 2 | 2 | 4 | 5 | 7 | 9 | 0 | 2 | 1 | 1 | 2 | 2 | 3 | 5 | 6 | 7 | 9 | 0 | 1 | 3 | 4 | 5 | 1 | 2 | 2 | 7 | 7 |
| 8 | 2 | 3 | 9 | 3 | 5 | 0 | 5 | 3 | 7 | 2 | 6 | 3 | 4 | 6 | 3 | 5 | 7 | 1 | 8 | 4 | 0 | 3 | 4 | 1 | 9 | 0 | 1 | 4 |

Nasolacrim Dct, Inflammation

Olfactory Epi, Hyaline Droplet

Trachea

Inflammation

Special Senses System

Eye

Bilateral, Cataract

Bilateral, Retina, Degeneration

Cataract

Harderian Gland

Hyperplasia

Infiltration Cellular, Lymphocyte

Inflammation

Urinary System

Kidney

Cyst

Degeneration, Mucoid

Hemorrhage

Hydronephrosis

Infiltration Cellular, Lymphocyte

Mineralization

Nephropathy

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1 50 PPB

DAY ON TEST

ANIMAL ID

[illegible]

Polycystic Kidney

Urinary Bladder

Dilatation

Hemorrhage

2

+ + + + + + + + + + A + + + + + + + + + + M + + + + +

3

3

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:08
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 50 PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 0 |
| *TOTALS |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Autolysis | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Autolysis | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 |
| Autolysis | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Basophilic Focus | | | | | | | | | | | X | | | | | | | | 1 |
| Bile Duct, Hyperplasia | 1 | | | | | 1 | | | 1 | | | | | 1 | 1 | 1 | | | 10 1.2 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | 2 | | 2 1.5 |
| Eosinophilic Focus | | | | | | | | | X | | | | | | | | | X | 5 |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | 1 |
| Infiltration Cellular, Lymphocyte | | | | 1 | | | | | | | | | | | | | | | 1 1.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

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Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:08

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1 50 PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 0 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Inflammation, Chronic Active | | | | | | | | | 1 | | | | | | | | | | 5 1.0 |
| Periportal, Inflammation, Chronic | | 1 | | | | | 1 | 1 | | | | | 1 | | | | | | 5 1.0 |
| Tension Lipidosis | | | | | | | | | | | | | | | | | | | 1 |
| Vacuolization Cytoplasmic | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | 1 |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Oral Mucosa | | + | | | | | | | | | | | + | | | | | | 4 |
| Gingival, Inflammation | | 3 | | | | | | | | | | | | | | | | | 1 3.0 |
| Keratin Cyst | | X | | | | | | | | | | | | X | | | | | 2 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Acinar Cell, Degeneration | | | | 2 | | | 2 | 2 | 1 | | 2 | 2 | | 2 | 2 | 1 | | 1 | 24 1.8 |
| Acinar Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lipomatosis | | | | | | | | | | | 3 | | | | | | | | 2 3.0 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Edema | | | | | | | | | | | | | | | | | | | 2 3.0 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Ulcer | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation | | | | | | | | | | | | | | | | | | | 1 1.0 |

Cardiovascular System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:08
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 50 PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 | 7 |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 7 | 0 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cardiomyopathy | 1 | | | | | | | | | 1 | | 1 | 1 | | | 2 | | | | 12 1.3 |
| Endocrine System | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Cyst | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Degeneration, Cystic | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 45 2.5 |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hypertrophy | | | | | | | 2 | | | 2 | | | | 2 | | | | | | 7 2.3 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | 43 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | 1 |
| Pars Distalis, Hyperplasia | | | | | | | | | | | | | | | | 2 | | | | 2 2.0 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C Cell, Hyperplasia | | | | | 2 | | | | | | | | | | | | | | | 4 2.0 |
| Follicular Cel, Hyperplasia | | | | | 1 | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | 2 1.0 |
| Ultimobranchial Cyst | | 3 | 2 | | | | | | | | | | | | 2 | | | | | 5 2.2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

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M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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Experiment Number: 99920-94
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 Species/Strain: Rat/CD

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

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:09
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 50 PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 0 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |

General Body System

NONE

Genital System

| | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | | | | | | | | | | | | | | | | | | | 2 1.5 |
| Duct, Dilatation | | | | 3 | 2 | 3 | | | | 3 | | | | | | | | | 9 2.6 |
| Inflammation | 3 | 3 | | 3 | 3 | 2 | 2 | 2 | | 2 | 1 | | | 2 | 2 | 2 | | 2 | 28 2.3 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | 2 | 4 | 4 | 3 | 2 | 4 | 2 | | 4 | 3 | 4 | 2 | 4 | 4 | 4 | 4 | 4 | 3 | 46 3.3 |
| Corpus Luteum, Cyst | | | | | | | | X | | X | | | | | | | | | 2 |
| Cyst | | | | X | X | X | | | X | X | X | | X | | | | X | X | 22 |
| Granulosa Cell, Hyperplasia | | | | | | | | | | | | | | | | 3 | | | 1 3.0 |
| Hyperplasia, Sertoliform | 1 | 2 | 1 | 1 | 2 | | 2 | | | | | 2 | 2 | 3 | 2 | | 2 | 1 | 23 1.7 |
| Oviduct | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Endometrium, Hyperplasia | | | | 2 | | | 2 | | | | | | | 4 | 2 | 3 | | 4 | 12 2.5 |
| Endometrium, Hyperplasia, Cystic | | | | 2 | 2 | | | | 2 | | 2 | 2 | 2 | | | 2 | | 2 | 17 2.0 |
| Hyperplasia, Atypical, Focal | 1 | 1 | 2 | 1 | 2 | 2 | | | | | | | | 2 | 1 | 2 | 2 | | 20 1.6 |
| Inflammation | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Metaplasia, Squamous | | | 2 | 2 | | | 2 | | 2 | | | | | 1 | | 1 | | | 13 1.6 |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Inflammation | | 2 | | | | 1 | | | | | | 2 | | 2 | | 2 | | | 17 1.8 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

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P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:09

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1 50 PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 2 | 0 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Mucocyte, Hyperplasia | 3 | 2 | 3 | 2 | 3 | | 2 | 3 | 3 | 3 | 3 | | 1 | 1 | | | | 3 | 3 | |
| Hematopoietic System | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Lymph Node | | | | + | | | + | | | | | | | | | + | + | + | | 10 |
| Deep Cervical, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Deep Cervical, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lumbar, Degeneration, Cystic | | | | 3 | | | 3 | | | | | | | | 2 | 2 | | | | 5 2.4 |
| Lumbar, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | 2 | 2 | | | | 3 2.0 |
| Lumbar, Infiltration Cellular, Plasma Cell | | | | 3 | | | 3 | | | | | | | | 3 | 3 | | | | 5 3.0 |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Mediastinal, Pigmentation | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Pancreatic, Hemorrhage | | | | | | | | | | | | | | | | | 2 | | | 1 2.0 |
| Pancreatic, Pigmentation | | | | | | | | | | | | | | | | | 2 | | | 1 2.0 |
| Popliteal, Degeneration, Cystic | | | | 3 | | | | | | | | | | | | | | | | 1 3.0 |
| Popliteal, Infiltration Cellular, Plasma Cell | | | | 4 | | | | | | | | | | | | | | | | 1 4.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Degeneration, Cystic | 3 | | 2 | 3 | 2 | | | | | | | | | | | | 4 | | | 8 2.4 |
| Hyperplasia, Lymphoid | | | | | | | | | | 2 | | | | | | | | | | 5 2.2 |
| Infiltration Cellular, Plasma Cell | 2 | 2 | 2 | 2 | 3 | 3 | 2 | | 2 | 3 | | 2 | 3 | 3 | 1 | 3 | | 2 | 3 | 39 2.3 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:09

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1 50 PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 0 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | | | | | | | | | | | | | | | | | | 2 | 1 2.0 |
| Depletion Lymphoid | | | | | | | | | | | | 3 | | | | | | | 1 3.0 |
| Hemorrhage | | | | | 2 | | | | | | | | | | 2 | | | | 2 2.0 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Infiltration Cellular, Plasma Cell | | | | | | | | | 2 | | | | | | | | | | 1 2.0 |
| Sinus, Dilatation | | | | | | | | | | | | 4 | | | | | | | 1 4.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hematopoietic Cell Proliferation | | | | | | | | 2 | | | | | | | | | | | 6 2.0 |
| Pigmentation | 2 | 1 | 2 | 3 | | 3 | 2 | 1 | 3 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 3 | 3 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Cyst | | X | | X | X | | X | | | | | | | | | | X | | 17 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Integumentary System | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Alveolus, Hyperplasia | 3 | | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | | 40 2.2 |
| Atypical Focus | 2 | 1 | 2 | 2 | 1 | | | 1 | | | | 2 | | 2 | 1 | 2 | 1 | 3 | 23 1.6 |
| Duct, Dilatation | | | | | | | | | 2 | | | | | 3 | | | | | 4 2.8 |
| Galactoceles | | | | X | | | | | | | X | | | | | | | | 6 |
| Lactation | | | 2 | 2 | 1 | 2 | | 3 | 2 | | 2 | 2 | 1 | | 2 | 3 | 2 | | 30 2.0 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation | | | | 4 | | | | | | 4 | | | | | | | | | 7 3.1 |
| Musculoskeletal System | | | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:09
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 50 PPB

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | 6 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 | 7 |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 7 | 0 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Bone, Femur | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | 1 |
| Nervous System | | | | | | | | | | | | | | | | | | | | |
| Brain, Brain Stem | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Compression | | | 3 | 2 | | | | | 2 | | 3 | 3 | | 3 | | | | 2 | 2 | 26 2.5 |
| Hemorrhage | | | | | | | | | | | | | 1 | | | | | | | 1 1.0 |
| Brain, Cerebellum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hydrocephalus | | | 1 | | | | | | | | | | | | | | | | | 2 1.5 |
| Brain, Cerebrum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hydrocephalus | | | | | | | | | | | | | | | | | | 2 | | 5 1.8 |
| Respiratory System | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Alveolar Epith, Hyperplasia | | | | | 2 | | | | | | | | | | | | | | | 1 2.0 |
| Artery, Mineralization | | | | | | | | | | | | | | | 2 | 2 | | | | 3 1.7 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Infiltration Cellular, Histiocyte | 3 | | | | 2 | | | | 2 | | 1 | 2 | | 2 | 2 | 2 | | | | 16 1.8 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | 1 | | | | | | | | | | 1 1.0 |
| Inflammation | | | | | | | | | | | | | | | | | | | | 3 2.0 |
| Perivascular, Inflammation | | | | | | | | | | | | | | | | | | | 1 | 1 1.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Foreign Body | | | | | | | | | | | | | | | | | | | | 1 |
| Inflammation | | | | | | | | | | | | | | | | | | | | 2 2.5 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:10

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1 50 PPB

| DAY ON TEST | 0 | |
|-------------|----|-----|
| | 7 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 | |
| ANIMAL ID | 0 | |
| | 0 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 | |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 7 | 0 | |
| *TOTALS | | |
| on | 2 | 2 | 1 | | 1 | | | 3 | | 2 | 2 | 2 | | | 2 | 2 | | 3 | 1 | 30 | 1.7 |
| let | | | | | | | | | | | | | 2 | | 1 | | | 2 | | 6 | 1.7 |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| | | | | | | | | | | | | | | | | | | 1 | 1 | 3 | 1.0 |
| | | |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| | | 1 |
| tion | | | | 2 | | | | 2 | | 2 | | | | | | | | | | 4 | 2.0 |
| | 1 | |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| | | | | | | | | | | 1 | | | | | | | | | | 5 | 1.0 |
| cyte | 1 | 1.0 |
| | | | 2 | 2 | | | | | | | | | | | | | | | | 4 | 1.5 |
| | | |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| | | | | | | | | | | X | X | | | | | | | | X | 7 | |
| | 1 | 2.0 |
| | 1 | 2.0 |
| | 1 | 2.0 |
| cyte | 1 | 1.0 |
| | 1 | 3 | 3 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | | 2 | 34 | 1.7 |
| | | | 1 | 1 | 1 | 1 | | | 1 | 1 | | | 1 | | 1 | | 2 | 1 | 1 | 17 | 1.1 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:10
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1 50 PPB

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------------|---------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 6 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
| | 2 | 2 | 2 | 2 | 2 | 6 | 6 | 6 | 7 | 2 | 2 | 2 | 6 | 6 | 6 | 6 | 7 | 2 | 7 | 7 |
| | 0 | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 0 | 2 | 0 | 0 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Polycystic Kidney | |
| Urinary Bladder | |
| Dilatation | |
| Hemorrhage | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + ..Tissue examined microscopically
 X ..Lesion present
 I ..Insufficient tissue

M ..Missing tissue
 A ..Autolysis precludes evaluation
 BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:29:11
First Dose M/F: NA / NA
Lab: NCTR

| CD Rat Female
F1/2PPB TO CTL | DAY ON TEST | |
|-----------------------------------|-------------|
| | | 0 | | |
| | | 0 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | | |
| | | 8 | 0 | 5 | 0 | 0 | 1 | 1 | 3 | 3 | 4 | 6 | 9 | 9 | 1 | 1 | 2 | 3 | 3 | 6 | 6 | 7 | 7 | 8 | 8 | 8 | 2 | 2 | 3 | 3 | |
| ANIMAL ID | | 7 | 6 | 2 | 3 | 9 | 5 | 4 | 0 | 8 | 2 | 9 | 2 | 7 | 8 | 8 | 0 | 2 | 4 | 1 | 6 | 0 | 3 | 5 | 3 | 9 | 5 | 5 | 9 | 0 | |
| | | 0 | |
| | | 0 | |
| | | 0 | 3 | 4 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 0 | 3 | 4 | 6 | 6 | 7 | 8 | 2 | 3 | 3 | 4 | 5 | 7 | 7 | 3 | 4 | 5 | 6 | 7 | |
| | | 3 | 6 | 5 | 5 | 6 | 3 | 4 | 8 | 0 | 4 | 6 | 3 | 2 | 3 | 4 | 5 | 8 | 1 | 0 | 5 | 7 | 9 | 8 | 6 | 0 | 3 | 9 | 1 | 2 | |
| Keratin Cyst | | X | |
| Stomach, Glandular | | + | | |
| Infiltration Cellular, Lymphocyte | | 2 | |
| Inflammation | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | |
| Tooth | | | | | | | | + | |
| Dysplasia | | | | | | | | 3 | |
| Cardiovascular System | |
| Blood Vessel | | + | | |
| Mineralization | |
| Heart | | + | | |
| Cardiomyopathy | | | | | | | | 1 | | | 1 | | | | 1 | | | 1 | 2 | | | 2 | 1 | | 1 | | 1 | | | | |
| Endocrine System | |
| Adrenal Cortex | | + | | |
| Angiectasis | | | | | | | | 1 | |
| Atrophy | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | | | 1 | 3 | 2 | | 2 | | | | 3 | 3 | | 3 | 3 | 2 | 3 | 2 | 4 | 2 | 3 | 2 | 4 | 3 | 3 | 2 | 4 | 3 | 3 | 4 | 1 |
| Hypertrophy | | | | | 2 | | | | | | | | | | | | | | | | | | | | 2 | | | | | | |
| Adrenal Medulla | | + | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| Islets, Pancreatic | | + | | |
| Hyperplasia | | | | | 1 | |
| Parathyroid Gland | | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade
 + ..Tissue examined microscopically
 X ..Lesion present
 I ..Insufficient tissue
 M ..Missing tissue
 A ..Autolysis precludes evaluation
 BLANK ..Not examined microscopically
 1-4 ..Lesion qualified as:
 1) Minimal 3) Moderate
 2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:13

First Dose M/F: NA / NA

Lab: NCTR

**CD Rat Female
F1/2PPB TO CTL**

DAY ON TEST

ANIMAL ID

| |
|---|
| 0 |
| 0 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 |
| 8 | 0 | 5 | 0 | 0 | 1 | 1 | 3 | 3 | 4 | 6 | 9 | 9 | 1 | 1 | 2 | 3 | 3 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 8 | 8 |
| 7 | 6 | 2 | 3 | 9 | 5 | 4 | 0 | 8 | 2 | 9 | 2 | 7 | 8 | 8 | 0 | 2 | 4 | 1 | 6 | 0 | 3 | 5 | 3 | 9 | 5 | 5 |
| 0 |
| 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 |
| 0 | 3 | 4 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 0 | 3 | 4 | 6 | 6 | 6 | 7 | 8 | 2 | 3 | 3 | 3 | 4 | 5 | 7 | 7 | 3 |
| 3 | 6 | 5 | 5 | 6 | 3 | 4 | 8 | 0 | 4 | 6 | 3 | 2 | 3 | 4 | 5 | 8 | 1 | 0 | 5 | 7 | 9 | 8 | 6 | 0 | 3 | 9 |

Inguinal, Infiltration Cellular, Plasma Cell

Lumbar, Degeneration, Cystic

Lumbar, Hemorrhage

Lumbar, Hyperplasia, Lymphoid

Lumbar, Infiltration Cellular, Plasma Cell

Pancreatic, Hyperplasia, Lymphoid

Renal, Hyperplasia, Lymphoid

Lymph Node, Mandibular

Degeneration, Cystic

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Inflammation, Suppurative

Lymph Node, Mesenteric

Degeneration, Cystic

Depletion Lymphoid

Hemorrhage

Hyperplasia, Lymphoid

Infiltration Cellular, Plasma Cell

Spleen

Hematopoietic Cell Proliferation

Pigmentation

Thymus

Cyst

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1/2PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

Special Senses System

[illegible]

Urinary System

| |
|----------------------|
| Kidney | + | |
| Cyst | | | | | | | | | | | | | | | | | | | X | X | | X | | | | | | |
| Degeneration, Muroid | | | | | | | | 2 | |
| Inflammation | 3 | |
| Mineralization | | 2 | 2 | | 1 | 2 | 2 | | | 1 | 3 | | 1 | | 2 | 3 | 2 | | | 3 | 2 | 2 | 1 | | | 2 | 3 | 1 |
| Nephropathy | | | | 2 | | | | | | | | | | | | | | 1 | | | | 1 | 1 | 1 | | | | 1 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | A | + | + | + | + | + | + | + | + | |

Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:14
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1/2PPB TO CTL**

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 6 | 6 | 6 | 2 | 7 | 7 | 7 | 7 | 8 | 7 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 |
| | 9 | 1 | 1 | 1 | 5 | 6 | 6 | 6 | 1 | 6 | 0 | 1 | 5 | 6 | 1 | 1 | 1 | 1 | 6 |
| | 6 | 2 | 3 | 4 | 0 | 5 | 6 | 7 | 2 | 0 | 3 | 3 | 9 | 0 | 4 | 5 | 6 | 7 | 7 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|----------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Necrosis | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Dilatation | | | | | | | | | | | | 2 | | | | | | | 1 2.0 |
| Erosion | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | 2 | | | | | | | | | | | | 2 1.5 |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | 1 |
| Bile Duct, Hyperplasia | | | | | | | 2 | | | 2 | | 1 | | 2 | | | 2 | | 7 1.7 |
| Capsule, Hemorrhage, Focal | | | | | | | | 2 | | | | | | | | | | | 1 2.0 |
| Cyst | | X | | | | | | | | | | | | | | | X | | 2 |
| Cyst Multilocular | | X | | | | | | | | | | | | | | | | | 2 |
| Degeneration, Cystic | | | | | 3 | | | | 2 | | | | | | | | | | 3 2.3 |
| Eosinophilic Focus | | | X | X | | | | | | | | | | | | | | | 2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

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1-4 ..Lesion qualified as:

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Experiment Number: 99920-94
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 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:14
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1/2PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 6 | 6 | 6 | 2 | 7 | 7 | 7 | 7 | 8 | 7 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 9 | 1 | 1 | 1 | 5 | 6 | 6 | 6 | 1 | 6 | 0 | 1 | 5 | 6 | 1 | 1 | 1 | 1 | 6 | 6 |
| | 6 | 2 | 3 | 4 | 0 | 5 | 6 | 7 | 2 | 0 | 3 | 3 | 9 | 0 | 4 | 5 | 6 | 7 | 7 | 7 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | | | | | | | | | 2 1.5 |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | | 2 |
| Inflammation, Chronic Active | 4 | | | | | | | | | | | | | | | | | | | 3 2.0 |
| Median Lobe, Developmental Malformation | | | | | X | | | | | | | | | | | | | | | 1 |
| Necrosis | 2 | | | | | | | | | | | | | | | | | | | 2 2.5 |
| Oval Cell, Hyperplasia | 3 | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Periportal, Inflammation, Chronic | | | | | | | | | | | 1 | | 1 | | | | | | | 3 1.7 |
| Vacuolization Cytoplasmic | | | | 2 | | | | 2 | | | 3 | | | | 2 | | | 2 | | 9 2.0 |
| Mesentery | | | | | | | | | | | | | | | | | | | | 2 |
| Cyst | | | | | | | | | | | | | | | | | | | | 1 |
| Fat, Necrosis | | | | | | | | | | | | | | | | | | | | 2 3.0 |
| Oral Mucosa | | + | | | | | | | | | + | | | | | | | | | 5 |
| Keratin Cyst | | | | | | | | | | | X | | | | | | | | | 2 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Acinar Cell, Degeneration | | 3 | 2 | 2 | 1 | 1 | | | | 1 | 2 | | | | 1 | | 2 | 2 | | 19 1.6 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | 1 4.0 |
| Lipomatosis | | | | | | | | 2 | | | | | | | | | | | | 1 2.0 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation, Chronic | 3 | | | | | | | | | | | | | | | | | | | 2 3.0 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Edema | | | | | | | | 2 | | | 3 | | | | | | | | | 3 2.3 |
| Hyperplasia | | | | | 2 | | | | | | 3 | | | | | | | | | 4 2.3 |
| Inflammation | | | | | | | | | | | 2 | | | | | | | | | 2 2.5 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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X ..Lesion present

I ..Insufficient tissue

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

**CD Rat Female
 F1/2PPB TO CTL**

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 6 | 6 | 6 | 2 | 7 | 7 | 7 | 7 | 8 | 7 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 9 | 1 | 1 | 1 | 5 | 6 | 6 | 6 | 1 | 6 | 0 | 1 | 5 | 6 | 1 | 1 | 1 | 1 | 1 | 6 | 6 |
| | 6 | 2 | 3 | 4 | 0 | 5 | 6 | 7 | 2 | 0 | 3 | 3 | 9 | 0 | 4 | 5 | 6 | 7 | 7 | 7 | 7 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | | |
| Keratin Cyst | 1 | | | | | | | | | | | | | | | | | | | | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Infiltration Cellular, Lymphocyte | 1 2.0 | | | | | | | | | | | | | | | | | | | | |
| Inflammation | 1 2.0 | | | | | | | | | | | | | | | | | | | | |
| Tooth | 1 | | | | | | | | | | | | | | | | | | | | |
| Dysplasia | 1 3.0 | | | | | | | | | | | | | | | | | | | | |
| Cardiovascular System | | | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Mineralization | 1 1.0 | | | | | | | | | | | | | | | | | | | | |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cardiomyopathy | 22 1.3 | | | | | | | | | | | | | | | | | | | | |
| Endocrine System | | | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | 1 1.0 | | | | | | | | | | | | | | | | | | | | |
| Atrophy | 1 2.0 | | | | | | | | | | | | | | | | | | | | |
| Degeneration, Cystic | 3 | 4 | 4 | 3 | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 4 | 2 | 2 | 3 | 4 | 3 | 3 | 1 | 43 | 2.7 |
| Hypertrophy | 2 2.0 | | | | | | | | | | | | | | | | | | | | |
| Adrenal Medulla | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Hyperplasia | 1 1.0 | | | | | | | | | | | | | | | | | | | | |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | 1 1.0 | | | | | | | | | | | | | | | | | | | | |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | M | 46 | |

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 Time Report Requested: 13:29:15
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1/2PPB TO CTL**

| DAY ON TEST | 0 | 0 | 0 |
|-----------------------------------|---------|----|-----|
| | 7 | 7 | 7 |
| | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 6 | 6 | 6 | 2 | 7 | 7 | 7 | 7 | 8 | 7 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| ANIMAL ID | 0 | 0 | 0 |
| | 0 | 0 | 0 |
| | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 9 | 1 | 1 | 1 | 5 | 6 | 6 | 6 | 1 | 6 | 0 | 1 | 5 | 6 | 1 | 1 | 1 | 1 | 1 | 6 | 6 | 6 |
| | 6 | 2 | 3 | 4 | 0 | 5 | 6 | 7 | 2 | 0 | 3 | 3 | 9 | 0 | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7 |
| | *TOTALS | | |
| Hyperplasia | | 1 | 2.0 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Pars Distalis, Cyst | | 1 | |
| Pars Distalis, Hyperplasia | | | | | | | | | | | | | | | | | 2 | | | | 2 | 2.0 |
| Pars Intermed, Cyst | | 1 | |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Follicular Cel, Hyperplasia | | | | 3 | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | 1 | | | | | | | | | | | | 1 | 1.0 |
| Ultimobranchial Cyst | | | | | | 2 | | | | | | | | | | | | | | | 1 | 2.0 |
| General Body System | | | |
| NONE | | | |
| Genital System | | | |
| Clitoral Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy | | | | | | | | | | | | | | | 2 | | | | | | 3 | 2.3 |
| Duct, Dilatation | 2 | 3 | | 2 | 2 | | 2 | | | | | 3 | 2 | 2 | | | | | | | 17 | 2.3 |
| Duct, Hyperplasia, Squamous | | | | | | | | | 1 | | | | | | | | | | | | 1 | 1.0 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | 2 | | | | | | | | | | | | 1 | 2.0 |
| Inflammation | 2 | 2 | 1 | 1 | 2 | 2 | 4 | 2 | | | 3 | 3 | | | 2 | 3 | 2 | | 2 | | 32 | 2.0 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Atrophy | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 4 | 4 | 4 | 3 | 2 | 2 | 2 | 4 | 2 | 4 | 2 | | 46 | 3.2 |
| Corpus Luteum, Cyst | | 1 | |
| Cyst | | | | | X | | X | | X | X | | | | X | X | | | | | | 12 | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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 F1/2PPB TO CTL**

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 6 | 6 | 6 | 2 | 7 | 7 | 7 | 7 | 8 | 7 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 9 | 1 | 1 | 1 | 5 | 6 | 6 | 6 | 1 | 6 | 0 | 1 | 5 | 6 | 1 | 1 | 1 | 1 | 1 | 6 |
| | 6 | 2 | 3 | 4 | 0 | 5 | 6 | 7 | 2 | 0 | 3 | 3 | 9 | 0 | 4 | 5 | 6 | 7 | 7 | 7 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Hyperplasia, Sertoliform | 3 | 2 | | 1 | | 2 | | | | 1 | | 2 | 1 | 1 | | 1 | 1 | 2 | 1 | 20 |
| Interstitial Cell, Hyperplasia | 3 | | | | | | | | | | | 2 | | | | | | | | 2 |
| Oviduct | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Pigmentation | | | | | | | | | | | | | | | | | | | | 1 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | | | | | | | | | | | | | | | | | | | | 1 |
| Endometrium, Hyperplasia | | | | | | | | | | 1 | | | | | | | 2 | | | 2 |
| Endometrium, Hyperplasia, Cystic | 1 | 3 | 2 | 1 | | 2 | 2 | | 2 | 2 | | | | | | 3 | 2 | | | 23 |
| Hyperplasia, Atypical, Focal | | 2 | | 1 | 2 | 1 | 2 | 1 | 1 | | | | 1 | | | | | 1 | | 10 |
| Hypoplasia | | | | | | | | | | | | | | | | | | | | 1 |
| Inflammation | | | | | | | | | | | | | | | | | | | | 3 |
| Metaplasia, Squamous | | | | 2 | 1 | 1 | | | 2 | | | | | | | | | | | 6 |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 |
| Inflammation | 2 | | | 1 | | | | 1 | | 4 | | | | | | | 2 | | 1 | 17 |
| Mucocyte, Hyperplasia | 2 | 2 | 3 | | 2 | 2 | 3 | 1 | 3 | 3 | | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 33 |
| Hematopoietic System | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Myeloid Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | 2 |
| Lymph Node | + | + | | + | + | | | | | | + | | + | | + | | | + | + | 15 |
| Degeneration, Cystic | | | | | | | | | | | | | 2 | | | | | | | 1 |
| Infiltration Cellular, Plasma Cell | | | | 4 | | | | | | | | | 2 | | | | | | | 3 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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CD Rat Female
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| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 6 | 6 | 6 | 2 | 7 | 7 | 7 | 7 | 8 | 7 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 9 | 1 | 1 | 1 | 5 | 6 | 6 | 6 | 1 | 6 | 0 | 1 | 5 | 6 | 1 | 1 | 1 | 1 | 1 | 6 | 6 |
| | 6 | 2 | 3 | 4 | 0 | 5 | 6 | 7 | 2 | 0 | 3 | 3 | 9 | 0 | 4 | 5 | 6 | 7 | 7 | 7 | 7 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | | |
| Inguinal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | 4 | | | | | 1 | 4.0 |
| Lumbar, Degeneration, Cystic | | 3 | | 3 | | | | | | | | | | | 3 | | | 3 | | 7 | 3.0 |
| Lumbar, Hemorrhage | 3 | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Lumbar, Hyperplasia, Lymphoid | | | | | | | | | | 2 | | | | | 3 | | | 3 | | 4 | 2.8 |
| Lumbar, Infiltration Cellular, Plasma Cell | 3 | 3 | | 3 | | | | | | 2 | | | | | | | | 3 | 3 | 7 | 2.7 |
| Pancreatic, Hyperplasia, Lymphoid | | | | | 2 | | | | | | | | | | | | | | | 1 | 2.0 |
| Renal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Degeneration, Cystic | 2 | 2 | | | | | | | 2 | 2 | | | | | 2 | | | | | 8 | 1.9 |
| Hyperplasia, Lymphoid | | 2 | | | | | 2 | 2 | | | 2 | | 1 | 3 | | | | | | 10 | 2.1 |
| Infiltration Cellular, Plasma Cell | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | | 2 | 2 | | | 3 | 2 | 2 | 2 | 2 | 40 | 2.3 |
| Inflammation, Suppurative | | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Degeneration, Cystic | | | | | | | | | | | | | | | 2 | | | | | 1 | 2.0 |
| Depletion Lymphoid | | | | | | | | | | | | | | | | | | | | 1 | 3.0 |
| Hemorrhage | 2 | | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 3 | 2.0 |
| Infiltration Cellular, Plasma Cell | | 2 | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Hematopoietic Cell Proliferation | 2 | | | | 2 | | | | | 2 | 1 | | 2 | | | | 1 | 1 | | 13 | 1.8 |
| Pigmentation | 2 | 2 | | | | 2 | 1 | | | | 2 | 2 | 1 | 1 | | 1 | 1 | 1 | 2 | 28 | 1.8 |
| Thymus | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 44 | |
| Cyst | X | | | | | | X | X | X | | | | X | | | | X | | | 13 | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:16
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1/2PPB TO CTL**

| CD Rat Female
F1/2PPB TO CTL | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
|--------------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-----|-----|-----|-----|-----|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | | |
| | | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | | | |
| | | 8 | 6 | 6 | 6 | 2 | 7 | 7 | 7 | 7 | 8 | 7 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | | | | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | | | | |
| | | 9 | 1 | 1 | 1 | 5 | 6 | 6 | 6 | 1 | 6 | 0 | 1 | 5 | 6 | 1 | 1 | 1 | 1 | 1 | 6 | | | | |
| | | 6 | 2 | 3 | 4 | 0 | 5 | 6 | 7 | 2 | 0 | 3 | 3 | 9 | 0 | 4 | 5 | 6 | 7 | 7 | 7 | | | | |
| *TOTALS | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hydrocephalus | 2 | | | | | | | | | | | | | | | | | | | | 3 | 1.7 | | | |
| Brain, Cerebrum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | |
| Hemorrhage | 2 | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | | |
| Hydrocephalus | | | | | | | | | | | | | | | | | | | | | 3 | 2.0 | | | |
| Respiratory System | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | |
| Alveolar Epith, Hyperplasia | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | | |
| Artery, Mineralization | | | | | | | | | | | | | 1 | 1 | 2 | | | | | | 3 | 1.3 | | | |
| Autolysis | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | | |
| Hemorrhage | 1 | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | | | |
| Infiltration Cellular, Histiocyte | | | | | | | | | 2 | | | | | 2 | 2 | | | | 1 | 2 | 7 | 1.9 | | | |
| Inflammation | 2 | | | | | | | | | | | | | | | | | | | | 1 | | | 3 | 1.3 |
| Peribronchial, Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | | 1 | | | 3.0 | |
| Perivascular, Inflammation | | | | | | | | | | | | | | 2 | | | | | | | 1 | 2.0 | | | |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | |
| Goblet Cell, Hyperplasia | 2 | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | | | |
| Inflammation | | | | | | 2 | | | | | | | | 2 | 2 | | | | 3 | 9 | 2.1 | | | | |
| Nasolacrim Dct, Inflammation | 2 | 1 | | | 2 | 2 | | | | 2 | | | | | 1 | 2 | 2 | 2 | 2 | 2 | 25 | 1.8 | | | |
| Respirat Epith, Hyaline Droplet | | | | | | | | | | | | | | | | 2 | | | | | | 1 | 2.0 | | |
| Respirat Epith, Hyperplasia | | | | | | | | | | | 1 | | | | | | | | | | | 1 | 1.0 | | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | | | |
| Inflammation | | | | | 1 | | | | | | | | | | | | | | | | | 1 | 1.0 | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:16
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1/2PPB TO CTL**

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 8 | 6 | 6 | 6 | 2 | 7 | 7 | 7 | 7 | 8 | 7 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 2 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 |
| | 9 | 1 | 1 | 1 | 5 | 6 | 6 | 6 | 1 | 6 | 0 | 1 | 5 | 6 | 1 | 1 | 1 | 1 | 6 |
| | 6 | 2 | 3 | 4 | 0 | 5 | 6 | 7 | 2 | 0 | 3 | 3 | 9 | 0 | 4 | 5 | 6 | 7 | 7 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |

Special Senses System

| | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Bilateral, Cataract | | | | | | | | | | | | | | | | | | | 2 |
| Bilateral, Retina, Degeneration | | | | | | | | 2 | | | | | | | | | | | 1 2.0 |
| Cataract | | | | | | | | | | | X | | | | | | | | 2 |
| Retina, Autolysis | | | | | | | | | | | | | | | | | | | 2 4.0 |
| Retina, Degeneration | | | | 2 | 1 | | | | | | | | | | | | | | 2 1.5 |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Epithelium, Degeneration | | | | | | | | | | | | | | | | | 1 | | 1 1.0 |
| Hyperplasia | 2 | | | | | | | | | | | | | | | | | | 2 1.5 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | 1 | | | | 2 1.5 |
| Inflammation | | | 1 | | 1 | | | 1 | | | | | | | | 1 | | | 7 1.1 |

Urinary System

| | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cyst | X | | | | | | | X | | X | | | X | X | X | | X | | 11 |
| Degeneration, Muroid | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Mineralization | 2 | | | 2 | | | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | | | 2 | | 30 2.1 |
| Nephropathy | 2 | 1 | 2 | 1 | | 2 | | 1 | | 2 | | 1 | 1 | | 1 | 1 | 1 | | 19 1.3 |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:17

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1/10PPB TO CTL

DAY ON TEST

ANIMAL ID

| | |
|-----------------------|-------------|
| 0
2
5
4 | 0
4
7 | 0
4
1 | 0
5
1 | 0
5
3 | 0
5
4 | 0
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6 | 0
5
1 | 0
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2 | 0
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3 | 0
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4 | 0
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4 | 0
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6 | 0
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8 | 0
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4 | 0
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1 | 0
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2 | 0
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5 | 0
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4 | 0
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9
2 | 0
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3 | 0
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1
7 | 0
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4
8 | 0
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1
8 | 0
0
0
4
0 | |

Mesentery

Oral Mucosa

Keratin Cyst

Pancreas

Acinar Cell, Degeneration

Acinar Cell, Hyperplasia

Artery, Inflammation, Chronic

Lipomatosis

Salivary Glands

Inflammation, Chronic

Stomach, Forestomach

Ulcer

Stomach, Glandular

Cardiovascular System

Blood Vessel

Heart

Cardiomyopathy

Endocrine System

Adrenal Cortex

Angiectasis

Degeneration, Cystic

Hematopoietic Cell Proliferation

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

1 ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:18

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1/10PPB TO CTL

DAY ON TEST

ANIMAL ID

| | | |
|-----------------------|-------------|-------------|
| 0
2
5
4 | 0
4
7 | 0
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1 | 0
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6 | 0
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6 | 0
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2 | 0
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2 | 0
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9 | 0
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1 | 0
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6 | 0
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8 | 0
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4 | 0
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1 | 0
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2 | 0
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5 | 0
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4 | 0
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4 | 0
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7 | 0
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8 | 0
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8 | 0
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7 | 0
7
4 | 0
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5 | 0
7
6 | 0
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7 | 0
7
7 | 0
7
5 |
| 0
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5 | 0
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3 | 0
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5
8 | 0
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6
7 | 0
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7
5 | 0
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8
2 | 0
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6 | 0
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2 | 0
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4 | 0
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7 | 0
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5 | 0
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6 | 0
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5 | 0
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6 | 0
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2 | 0
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2
9
3 | 0
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3
1
8 | 0
0
3
2
0 | 0
0
3
2
7 | 0
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3
3
4 | 0
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3
5
0 | 0
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3
7
8 | 0
0
3
7
2 | 0
0
3
9
3 | 0
0
4
1
7 | 0
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4
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3 | 0
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4
1
7 | 0
0
4
1
8 | 0
0
4
1
0 | 0
0
4
1
8 | | |

Hypertrophy

Adrenal Medulla

Hyperplasia

Islets, Pancreatic

Parathyroid Gland

Pituitary Gland

Angiectasis

Pars Distalis, Cyst

Pars Distalis, Hyperplasia

Pigmentation

Thyroid Gland

C Cell, Hyperplasia

Follicle, Cyst

Follicular Cel, Hyperplasia

Inflammation, Chronic

Ultimobranchial Cyst

General Body System

NONE

Genital System

Clitoral Gland

Atrophy

Duct, Dilatation

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1/10PPB TO CTL

DAY ON TEST

ANIMAL ID

| | | | | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|
| 0
2
5
4 | 0
4
7 | 0
4
1 | 0
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1 | 0
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3 | 0
5
4 | 0
5
6 | 0
5
1 | 0
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6 | 0
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2 | 0
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3 | 0
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6 | 0
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2 | 0
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4 | 0
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7 | 0
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8 | 0
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8 | 0
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9 | 0
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3 | 0
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6 | 0
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5 | 0
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2 | 0
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9 | 0
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7 | 0
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9 | 0
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3
3 | 0
0
3
7 | 0
0
4
9 | 0
0
4
1 | 0
0
4
7 | |

Inflammation

Ovary

Atrophy

Cyst

Hyperplasia, Sertoliform

Interstit Cell, Hyperplasia

Oviduct

Uterus

Atrophy

Cervix, Hyperplasia

Endometrium, Hyperplasia

Endometrium, Hyperplasia, Cystic

Hyperplasia, Atypical, Focal

Inflammation

Metaplasia, Squamous

Vagina

Inflammation

Mucocyte, Hyperplasia

Hematopoietic System

Bone Marrow

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
Time Report Requested: 13:29:19
First Dose M/F: NA / NA
Lab: NCTR

**CD Rat Female
 F1/10PPB TO CTL**

| CD Rat Female
F1/10PPB TO CTL | DAY ON TEST | |
|----------------------------------|-------------|
| | 0 | 0 |
| | 2 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 7 | 9 | 1 | 1 | 3 | 4 | 6 | 6 | 1 | 3 | 3 | 4 | 4 | 6 | 7 | 8 | 0 | 0 | 1 | 1 | 1 | 2 | 3 | 3 | 3 | 4 | 4 |
| | 4 | 7 | 1 | 0 | 9 | 7 | 6 | 1 | 6 | 2 | 2 | 9 | 1 | 6 | 8 | 4 | 7 | 1 | 2 | 5 | 4 | 7 | 4 | 0 | 7 | 8 | 8 | 8 |
| ANIMAL ID | 0 | 0 |
| | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
| | 1 | 5 | 5 | 6 | 7 | 8 | 8 | 0 | 0 | 5 | 7 | 8 | 8 | 9 | 3 | 4 | 6 | 9 | 9 | 1 | 2 | 2 | 3 | 5 | 7 | 7 | 9 | 9 |
| | 5 | 3 | 8 | 7 | 5 | 2 | 6 | 2 | 5 | 4 | 7 | 5 | 6 | 6 | 2 | 5 | 6 | 2 | 3 | 8 | 0 | 2 | 7 | 3 | 4 | 0 | 8 | 2 |
| Pigmentation | | | | | | 3 | 3 | 2 | 2 | 1 | | 2 | | | | | | 2 | 2 | 2 | | | | 2 | 3 | 2 | | 1 |
| Thymus | + | + | + | + | + | + | M | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cyst | | | | | | X | | | | | | | X | X | | | | | | X | | X | | | X | X | X | |
| Integumentary System | |
| Mammary Gland | + | + |
| Alveolus, Hyperplasia | | | | | 2 | 1 | | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 4 | 3 | 1 | 4 | 3 |
| Atypical Focus | | | | | | | | 2 | | | | | | | | 1 | 2 | 2 | | | 3 | | | 1 | 2 | | | 3 |
| Duct, Dilatation | | 1 |
| Galactocele | | | | | | X | | | | | | | | | | X | | | | | | | | | | | | |
| Lactation | | | | | 2 | 1 | | 2 | 1 | 2 | | 2 | 2 | 2 | | 2 | 2 | 2 | 1 | 2 | 2 | | | | 2 | 1 | | 2 |
| Skin | + | + |
| Inflammation | | | 4 | | | | | 2 | | | | | 3 | 4 | | | | | | | | 4 | 4 | 4 | 4 | 4 | | 4 |
| Musculoskeletal System | |
| Bone, Femur | + | + |
| Osteopetrosis | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | |
| Skeletal Muscle | | | | | | | | | + | | | | | | | + | | | | | | | | | | + | + | |
| Nervous System | |
| Brain, Brain Stem | + | + |
| Compression | | | | | | 3 | 2 | 3 | 3 | 3 | | 4 | 2 | | | 4 | | 3 | | 3 | | 2 | 1 | | | 3 | 3 | |
| Hemorrhage | |
| Brain, Cerebellum | + | + |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1/10PPB TO CTL

DAY ON TEST

ANIMAL ID

| | | |
|-----------------------|-------------|-------------|
| 0
2
5
4 | 0
4
7 | 0
4
1 | 0
5
1 | 0
5
3 | 0
5
4 | 0
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6 | 0
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1 | 0
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2 | 0
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3 | 0
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4 | 0
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6 | 0
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4 | 0
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7 | 0
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1 | 0
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5 | 0
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3 | 0
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4 | 0
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4 | 0
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5 | 0
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6 | 0
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7 | 0
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5 | 0
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7 |
| 0
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1
5 | 0
0
0
5
3 | 0
0
0
5
8 | 0
0
0
6
7 | 0
0
0
7
5 | 0
0
0
8
2 | 0
0
0
8
6 | 0
0
0
5
2 | 0
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4 | 0
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7
7 | 0
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8
5 | 0
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7
7 | 0
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9
3 | 0
0
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9
2 | 0
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9
6 | 0
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9
2 | 0
0
0
1
3 | 0
0
0
2
0 | 0
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0
3
7 | 0
0
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3
4 | 0
0
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5
0 | 0
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3
4 | 0
0
0
3
0 | 0
0
0
7
8 | 0
0
0
9
2 | 0
0
0
3
3 | 0
0
0
9
7 | 0
0
0
3
1 | 0
0
0
4
7 | 0
0
0
1
8 | 0
0
0
1
7 | 0
0
0
4
8 | | |

+

$$2 \qquad 2$$

A A

Respiratory System

Lung +

| | | | |
|-----------------------------------|---|---|---|
| Infiltration Cellular, Histiocyte | 1 | 2 | 2 |
|-----------------------------------|---|---|---|

| | | |
|--------------|---|---|
| Inflammation | 2 | 2 |
|--------------|---|---|

[illegible]

Foreign Body

Goblet Cell, Hyperplasia

| | | | |
|--------------|---|---|---|
| Inflammation | 2 | 1 | 2 |
|--------------|---|---|---|

| | | | | | | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nasolacrim Dct, Inflammation | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 3 | 1 | 2 |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | |
|--------------------------------|---|---|
| Olfactory Epi, Hyaline Droplet | 2 | 1 |
|--------------------------------|---|---|

| | |
|---------------|---|
| Osteopetrosis | 2 |
|---------------|---|

[illegible]

| | |
|--------------|---|
| Inflammation | 1 |
|--------------|---|

Special Senses System

[illegible]

| | | | | |
|---------------------------------|---|---|---|---|
| Bilateral, Retina, Degeneration | 2 | 3 | 2 | 3 |
|---------------------------------|---|---|---|---|

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

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 Route: DOSED FEED
 Species/Strain: Rat/CD

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

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:20
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1/10PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| | 7 | 7 | 7 | 1 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 1 | 2 | 6 | 6 | 6 | 2 | 2 | 6 |
| | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 3 | 4 | 5 | 0 | 1 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|--------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation | | | | | | | | | | | | | | | | | | | 2 4.0 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | 2 | | | | | | | | | | | | 4 2.0 |
| Basophilic Focus | | | | | | | | | | | | | | | | | | | 1 |
| Bile Duct, Hyperplasia | | | | 1 | | | 1 | 1 | | 1 | | | | 2 | | | 1 | 2 | 16 1.4 |
| Cyst | | | | | | | | | | | | | | | | | | | 2 |
| Cyst Multilocular | | | | | | | | | | | | | | | | | | | 1 |
| Degeneration, Cystic | | | | 1 | | | 2 | | | | | | | | | | | | 5 1.6 |
| Eosinophilic Focus | | | | X | | | | | X | | | | | X | | X | | | 5 |
| Hematopoietic Cell Proliferation | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | 1 | | | | | | | 1 1.0 |
| Inflammation, Chronic Active | | 1 | | | | | | | | | | | | | | | | | 6 1.0 |
| Periportal, Inflammation, Chronic | | | 1 | 1 | | | 1 | | | | | | | 1 | | | | | 5 1.0 |
| Vacuolization Cytoplasmic | | | | | 2 | | | 2 | | | | | | 1 | 3 | | | 1 2 | 11 2.2 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

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| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|----------------------------------|-------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 7 | 1 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 1 | 2 | 6 | 6 | 6 | 2 | 2 | 6 | 6 |
| | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 3 | 4 | 5 | 0 | 1 | 9 | 9 |
| | *TOTALS |
| Mesentery | + |
| Oral Mucosa | + |
| Keratin Cyst | |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Acinar Cell, Degeneration | 1 | | | 1 | 2 | 2 | | | 3 | 1 | 3 | 2 | | 2 | 2 | 1 | 1 | | 2 | |
| Acinar Cell, Hyperplasia | 2 |
| Artery, Inflammation, Chronic | |
| Lipomatosis | 2 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation, Chronic | |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Ulcer | |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cardiovascular System | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Cardiomyopathy | 1 | | | | 1 | | | 1 | 1 | | 1 | | 1 | | | 1 | | | | |
| Endocrine System | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Angiectasis | |
| Degeneration, Cystic | 2 | | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 2 | 3 | 4 | 2 | 3 | 3 | 2 | 1 | |
| Hematopoietic Cell Proliferation | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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| | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
|-----------------------------|-------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|-------|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | |
| ANIMAL ID | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | |
| | | 7 | 7 | 7 | 1 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 1 | 2 | 6 | 6 | 6 | 2 | 2 | 6 | |
| | | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 3 | 4 | 5 | 0 | 1 | 9 | |
| | | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Hypertrophy | | 2 | | | | | | | | | | | | | | | | | | | 2 2.5 |
| Adrenal Medulla | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | 48 | |
| Hyperplasia | | 1 | | | | | | | | | | | | | | | | | | | 2.0 |
| Islets, Pancreatic | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Parathyroid Gland | | M | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | M | + | 44 | |
| Pituitary Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Angiectasis | | 2 | | | | | | | | | | | | | | | | | | | 2.0 |
| Pars Distalis, Cyst | | 1 | | | | | | | | | | | | | | | | | | | |
| Pars Distalis, Hyperplasia | | 2 | | | | | | | | | | | | | | | | | | | 3 |
| Pigmentation | | 3 | | | | | | | | | | | | | | | | | | | 4 2.0 |
| Thyroid Gland | | 3 | | | | | | | | | | | | | | | | | | | 1 3.0 |
| C Cell, Hyperplasia | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | |
| Follicle, Cyst | | 3 | | | | | | | | | | | | | | | | | | | 2.0 |
| Follicular Cel, Hyperplasia | | 1 | | | | | | | | | | | | | | | | | | | 2.0 |
| Inflammation, Chronic | | 1 | | | | | | | | | | | | | | | | | | | 1.5 |
| Ultimobranchial Cyst | | 3 | | | | | | | | | | | | | | | | | | | 1.0 |
| General Body System | | 2 | | | | | | | | | | | | | | | | | | | 2.5 |
| NONE | | | | | | | | | | | | | | | | | | | | | |
| Genital System | | | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 | |
| Atrophy | | 2 | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Duct, Dilatation | | 3 4 | | | | | | | | | | | | | | | | | | | 9 2.4 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

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| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 7 | 1 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 1 | 2 | 6 | 6 | 6 | 2 | 2 | 6 | 6 |
| | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 3 | 4 | 5 | 0 | 1 | 9 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Lymph Node | | + | | | | + | + | | | | + | | | | + | + | | + | | 12 |
| Axillary, Hyperplasia, Lymphoid | | | | | | | | | | | 3 | | | | | | | | | 1 3.0 |
| Axillary, Infiltration Cellular, Plasma Cell | | | | | | | | | | | 4 | | | | | | | | | 1 4.0 |
| Inguinal, Hyperplasia, Lymphoid | | | | | | | | | | | 3 | | | | | | | | | 1 3.0 |
| Inguinal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | 3 | | | | | | | | | 1 3.0 |
| Lumbar, Degeneration, Cystic | | 3 | | | | 4 | 4 | | | | | | | | 3 | | | 3 | | 9 3.3 |
| Lumbar, Hyperplasia, Lymphoid | | 2 | | | | | | | | | 3 | | | | | | 2 | 3 | | 7 2.3 |
| Lumbar, Infiltration Cellular, Plasma Cell | | 3 | | | | | 3 | | | | 3 | | | | 2 | 2 | | 3 | | 10 2.6 |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | 3 | | | | | 1 3.0 |
| Mediastinal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mediastinal, Sinus, Dilatation | | | | | | | | | | | | | | | 3 | | | | | 1 3.0 |
| Lymph Node, Mandibular | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Degeneration, Cystic | | | | 2 | | | | | | | | | | | 2 | | | | | 6 2.0 |
| Hyperplasia, Lymphoid | | | | | 2 | | | | | 2 | 2 | | | | 2 | 2 | | | | 11 2.1 |
| Infiltration Cellular, Plasma Cell | 3 | 2 | 3 | 2 | 2 | | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 41 2.3 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia, Lymphoid | | | | | | | | | | | 2 | | | | | | | | | 4 2.0 |
| Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hematopoietic Cell Proliferation | | | 2 | | 2 | | | | 1 | 1 | 1 | | | 2 | | | | 2 | | 17 1.8 |
| Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | | | | | 1 2.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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 F1/10PPB TO CTL**

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F1/10PPB TO CTL | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
|----------------------------------|-------------|----|-----|-----|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | | | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | | | |
| | ANIMAL ID | 0 | | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | | | |
| | 7 | 7 | 7 | 1 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 1 | 1 | 2 | 6 | 6 | 6 | 2 | 2 | 6 | | | |
| | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 3 | 4 | 5 | 0 | 1 | 9 | | | | |
| | *TOTALS | | | |
| Pigmentation | | | | 3 | 2 | | 2 | 1 | | 2 | 1 | | 2 | 1 | 2 | 2 | | 1 | | | 25 | 1.9 | |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | M | M | + | + | + | + | | 46 | | |
| Cyst | | X | X | X | X | X | X | X | | | X | X | | | | | X | X | X | X | | 22 | |
| Integumentary System | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 50 | | |
| Alveolus, Hyperplasia | | | 3 | 2 | 3 | 2 | 1 | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 3 | 1 | 4 | | 43 | 2.3 | |
| Atypical Focus | | | | 2 | | | 1 | | 1 | 1 | | 3 | | 1 | 1 | | | 2 | 1 | 2 | | 19 | 1.7 |
| Duct, Dilatation | | | | 2 | | | | | | | | | | | | | | | | | | 1 | 2.0 |
| Galactocele | | | | | | | | X | | | | | | | | | | | | X | | 4 | |
| Lactation | | | 2 | 2 | | 2 | 2 | | | | 2 | | | 2 | | | 2 | 1 | | 1 | | 29 | 1.8 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 50 | |
| Inflammation | | | 4 | | | 4 | 2 | 4 | 4 | | | 4 | | | | | 4 | 4 | 3 | 4 | | 21 | 3.7 |
| Musculoskeletal System | | | | |
| Bone, Femur | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 50 | |
| Osteopetrosis | | | 1 | 2.0 |
| Skeletal Muscle | | | 4 | |
| Nervous System | | | | |
| Brain, Brain Stem | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 50 | |
| Compression | | | | | | 2 | | | | | | | | | 3 | | | | 3 | | | 18 | 2.8 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | 2 | | | 1 | 2.0 |
| Brain, Cerebellum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | | 50 | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:21
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1/10PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 7 | 1 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 1 | 2 | 6 | 6 | 6 | 2 | 2 | 6 | 6 |
| | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 3 | 4 | 5 | 0 | 1 | 9 | 9 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Brain, Cerebrum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hydrocephalus | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Peripheral Nerve | | | | | | | | | | | | | | | | | | | | 2 |
| Spinal Cord | | | | | | | | | | | | | | | | | | | | 0 |
| Respiratory System | | | | | | | | | | | | | | | | | | | | |
| Lung | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Alveolar Epith, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Artery, Mineralization | | 2 | | | | | | | | | | | | | | | | | | 1 2.0 |
| Infiltration Cellular, Histiocyte | | | | | 1 | | | | | | | | | | | | | | | 4 1.5 |
| Inflammation | | | | | | | | | | | | | | | | | | | | 2 2.0 |
| Nose | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Foreign Body | | | | X | | | | | | | | | | | | | | | | 1 |
| Goblet Cell, Hyperplasia | | | 3 | | | | | | | | | | | | | | | | | 1 3.0 |
| Inflammation | | | | 2 | | | | | | | | | | | | | | | | 4 1.8 |
| Nasolacrim Dct, Inflammation | | 2 | | | 2 | | 2 | 1 | 2 | | 1 | 2 | 1 | 2 | | 1 | 2 | 2 | | 29 1.8 |
| Olfactory Epi, Hyaline Droplet | | | | | | | | | | | | | | | | 1 | | | | 3 1.3 |
| Osteopetrosis | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Special Senses System | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Bilateral, Retina, Degeneration | | 2 | | | | | | | | | 2 | | | | | | | | | 6 2.3 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:22
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1/10PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|---|-------------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 7 | 1 | 1 | 1 | 1 | 6 | 6 | 1 | 1 | 1 | 2 | 6 | 6 | 6 | 2 | 2 | 6 | 6 |
| | 1 | 2 | 3 | 6 | 7 | 8 | 9 | 5 | 6 | 7 | 8 | 9 | 0 | 3 | 4 | 5 | 0 | 1 | 9 | 9 |
| | *TOTALS |
| Cataract | |
| Retina, Degeneration | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | |
| Infiltration Cellular, Lymphocyte | |
| Inflammation | |
| Urinary System | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Bilateral, Hydronephrosis | |
| Cyst | |
| Degeneration, Muroid | |
| Epithelium, Pelvis, Hyperplasia | |
| Hydronephrosis | |
| Mineralization | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 3 | 2 | | |
| Nephropathy | 1 | 1 | 1 | | 1 | 1 | 2 | 1 | 1 | 1 | | | 1 | | | 1 | | | | |
| Renal Tubule, Accumulation, Hyaline Droplet | |
| Urinary Bladder | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| Inflammation | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:22

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

Alimentary System

| | |
|---|---|
| Esophagus | + |
| Intestine Large, Cecum | + |
| Intestine Large, Colon | + |
| Intestine Large, Rectum | + |
| Intestine Small, Duodenum | + |
| Intestine Small, Ileum | + | A | + | + | + | + | + | + | + |
| Intestine Small, Jejunum | + |
| Liver | + |
| Angiectasis | 2 | | | | | | | |
| Basophilic Focus | | | | | | | | X | | | | | | | | | | | | | | | | | X | | | |
| Bile Duct, Hyperplasia | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | |
| Caudate Lobe, Developmental Malformation | |
| Cyst Multilocular |
| Degeneration, Cystic |
| Eosinophilic Focus | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| Eosinophilic Focus, Multiple |
| Hematopoietic Cell Proliferation | 1 | | 1 | | | |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| Infiltration Cellular, Lymphocyte |
| Inflammation, Chronic Active | | | | | | | 1 | | | | | | | 1 | | | | | | | | | | | | | 1 | |
| Left Lat Lobe, Developmental Malformation | | X | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

| | |
|-----------------------|------------------|
| 0
4
0
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7 | |

Endocrine System

2) Mild 4) Marked

Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:23
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1/50PPB TO CTL**

| | DAY ON TEST | |
|----------------------------|---|---|
| | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 0 | 9 | 1 | 6 | 7 | 9 | 9 | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 6 | 8 | 9 | 9 | 9 | 0 | 0 | 1 | 2 | 2 | 3 | 3 | 4 | 4 |
| | 4 | 5 | 1 | 1 | 4 | 3 | 8 | 7 | 0 | 2 | 5 | 2 | 3 | 5 | 7 | 9 | 5 | 6 | 8 | 1 | 2 | 5 | 4 | 8 | 6 | 8 | 2 | 6 |
| ANIMAL ID | 0 | 0 |
| | 0 | 0 |
| | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 |
| | 3 | 6 | 7 | 0 | 1 | 3 | 4 | 6 | 6 | 7 | 8 | 0 | 2 | 2 | 2 | 7 | 8 | 8 | 8 | 9 | 0 | 2 | 3 | 5 | 6 | 7 | 8 | 9 |
| | 5 | 0 | 1 | 1 | 1 | 0 | 4 | 1 | 6 | 1 | 9 | 8 | 1 | 2 | 2 | 8 | 2 | 3 | 8 | 5 | 1 | 5 | 0 | 3 | 6 | 2 | 1 | 2 |
| Adrenal Cortex | + | + |
| Angiectasis | 1 | |
| Atrophy | | |
| Degeneration, Cystic | 2 2 1 1 2 3 2 2 3 2 2 3 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 1 2 | |
| Hyperplasia | | |
| Hypertrophy | 1 2 | |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + |
| Hyperplasia | 1 2 | |
| Islets, Pancreatic | + | + |
| Parathyroid Gland | + | + | + | + | + | + | + | M | + | M | + | + | + | + | I | + | + | + | + | M | + | + | + | + | + | + | + | + |
| Pituitary Gland | + | + | + | + | M | + |
| Angiectasis | 1 | |
| Pars Distalis, Cyst | X | |
| Pars Distalis, Hyperplasia | 2 | |
| Pars Intermed, Cyst | X | |
| Thyroid Gland | + | + |
| C Cell, Hyperplasia | 4 | |
| Inflammation, Chronic | 2 | |
| Ultimobranchial Cyst | | |

General Body System

NONE

Genital System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:23

First Dose M/F: NA / NA

Lab: NCTR

[illegible]

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
4
0
4 | 0
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Mucocyte, Hyperplasia

Hematopoietic System

Bone Marrow

Hyperplasia

Myeloid Cell, Hyperplasia

Lymph Node

Inguinal, Degeneration, Cystic

Inguinal, Hyperplasia, Lymphoid

Inguinal, Infiltration Cellular, Plasma Cell

Lumbar, Degeneration, Cystic

Lumbar, Hyperplasia, Lymphoid

Lumbar, Infiltration Cellular, Plasma Cell

Mediastinal, Hemorrhage

Mediastinal, Infiltration Cellular, Plasma Cell

Popliteal, Infiltration Cellular, Plasma Cell

Renal, Degeneration, Cystic

Renal, Hyperplasia, Lymphoid

Renal, Infiltration Cellular, Plasma Cell

Lymph Node, Mandibular

Degeneration, Cystic

Hemorrhage

Hyperplasia, Lymphoid

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:24

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
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| |
|------------------------------------|
| Infiltration Cellular, Plasma Cell | 2 | 2 | | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | | 2 | 2 | 2 | 2 | 3 | 2 | 2 | | 2 | | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 3 |
| Lymph Node, Mesenteric | + | |
| Degeneration, Cystic | | 3 | | | | | 2 | | | | 2 | | | | | | | | | | | | | | | | | | | 1 | |
| Depletion Lymphoid |
| Hyperplasia, Lymphoid | | | | | | | 3 | | 2 | | | | | | 2 | | | | | 1 | | | 2 | | | | | | | | |
| Infiltration Cellular, Plasma Cell | | | | | 2 | | | | | | | | | | | | | | | | | | | | 2 | | 1 | | | | |
| Spleen | + | |
| Hematopoietic Cell Proliferation | 1 | | | | 2 | | | | | | | | | | | | | | | 2 | 1 | | | | 3 | | | | | | |
| Pigmentation | 2 | | | 1 | | 3 | 2 | | 3 | 2 | | | 2 | 2 | | 2 | 3 | 2 | 2 | | | 1 | 1 | 2 | 3 | 2 | | 1 | | 2 | 2 |
| Thymus | + | + | + | + | + | + | + | + | + | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | M | + | |
| Cyst | | | | | | X | | X | X | X | | X | | X | | | | | | X | | | | | | X | | | | | |
| Integumentary System |
| Mammary Gland | + | |
| Alveolus, Hyperplasia | 1 | 2 | | 3 | 1 | 1 | 2 | 1 | 2 | | 1 | 1 | 2 | | 2 | 1 | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | |
| Atypical Focus | | | | 2 | | | | | | | | | | | 1 | | | | | | 1 | 1 | 2 | 2 | | | 1 | | | | |
| Duct, Dilatation | | | | | | 2 | | | 2 | | 2 | |
| Duct, Inflammation | 2 | |
| Fibrosis | 3 | |
| Galactocele | | | | | | | | | X | |
| Lactation | | | | 3 | 2 | 2 | 1 | 1 | 2 | | | 1 | | 2 | | | 2 | | 2 | | | 2 | | | 3 | | | | | 1 | |
| Skin | + | |
| Inflammation | 3 | | | 2 | 3 | | | 3 | | | | 4 | | | | | | 4 | | 4 | 4 | 4 | 4 | 4 | | 4 | | | | 4 | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

[illegible]

Bone, Femur
Skeletal Muscle

- Brain, Brain Stem
 - Compression
 - Hydrocephalus
- Brain, Cerebellum
 - Hemorrhage
 - Hydrocephalus
- Brain, Cerebrum
 - Hydrocephalus

Lung
Artery, Mineralization
Edema
Hemorrhage
Infiltration Cellular, Histiocyte
Infiltration Cellular, Lymphocyte
Inflammation
Nose

1 ..Insufficient tissue

BLANK ..Not examined microscopically

2) Mild 4) Marked

Species/Strain: Rat/CD

CAS Number: 57-63-6

Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

| |
|-----------------------|
| 0
4
0
4 | 0
4
9
5 | 0
5
1
1 | 0
5
7
4 | 0
5
9
3 | 0
5
9
8 | 0
6
1
7 | 0
6
2
0 | 0
6
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2 | 0
6
4
5 | 0
6
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2 | 0
6
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3 | 0
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5 | 0
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7 | 0
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9 | 0
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5 | 0
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8 | 0
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9 | 0
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1 | 0
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5 | 0
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2 | 0
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4 | 0
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3 | 0
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5 | 0
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6
0 | 0
0
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7
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1 | 0
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1
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1 | 0
0
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3
4 | 0
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2 | 0
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4
5
3 |

Foreign Body

Inflammation

Nasolacrim Dct. Inflammation

Olfactory Epi, Hyaline Droplet

Trachea

Inflammation

Special Senses System

Eye

Bilateral, Retina, Degeneration

Cornea, Inflammation

Retina, Degeneration

Harderian Gland

Hyperplasia

Infiltration Cellular, Lymphocyte

Inflammation

Zymbal's Gland

Urinary System

Kidney

Cyst

Infiltration Cellular, Lymphocyte

Mineralization

Nephropathy

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

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2) Mild 4) Marked

Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:25

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

DAY ON TEST

ANIMAL ID

| | |
|-----------------------|------------------|
| 0
4
0
4 | 0
4
9
5 | 0
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1
1 | 0
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8 | 0
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7 | 0
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5 | 0
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1 | 0
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7 | 0
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8 | 0
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5 | 0
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3 | 0
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6 | 0
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8
2 | 0
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3
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2 | 0
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4
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3 | 0
0
4
2
7 | 0
0
4
3
7 | |

Polycystic Kidney

Renal Tubule, Hyperplasia, Focal

Urinary Bladder

2

2

+ + + + + + + + A + + + + + + + + + + + + + + + +

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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2) Mild 4) Marked

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 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

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

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:25
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-------------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 2 | 2 | 7 | 7 |
| | 8 | 9 | 5 | 6 | 7 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 1 |
| *TOTALS |

Alimentary System

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| Esophagus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Cecum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Colon | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Large, Rectum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Duodenum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Intestine Small, Ileum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Intestine Small, Jejunum | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Liver | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | 2 | | | | | | | | | | | 2 | | | | | | | 3 2.0 |
| Basophilic Focus | | | | | | | | | | X | | X | X | X | | | | | 6 |
| Bile Duct, Hyperplasia | | | 1 | | | | 1 | 2 | 2 | | | | | | | 2 | 1 | 1 | 8 1.4 |
| Caudate Lobe, Developmental Malformation | | | | | | | | | | X | | | | | | | | | 1 |
| Cyst Multilocular | X | | | | | | | | | | | | | | | | | | 1 |
| Degeneration, Cystic | | | | | | | | | | | | | 2 | | | | | | 1 2.0 |
| Eosinophilic Focus | | | | | | | X | | | | | | | | | X | | | 3 |
| Eosinophilic Focus, Multiple | | | | | | | | | | X | | | | | | | | | 1 |
| Hematopoietic Cell Proliferation | | | | | | | | | | | 1 | | | | | | | | 3 1.0 |
| Hepatodiaphragmatic Nodule | | | | | | | | | | | | | | | | | | | 1 |
| Infiltration Cellular, Lymphocyte | | | | 1 | | | | | | | | | | | | 1 | | | 2 1.0 |
| Inflammation, Chronic Active | | | | | | | | | | | | | 1 | | | | | | 4 1.0 |
| Left Lat Lobe, Developmental Malformation | | | | | | | | | | | | | | | | | | | 1 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

1-4 ..Lesion qualified as:

1) Minimal 3) Moderate

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:26
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1/50PPB TO CTL**

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 7 |
| | 8 | 9 | 5 | 6 | 7 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | |
| Mixed Cell Focus | | | | | | | | | | | | | | | | X | | | 1 |
| Periportal, Inflammation, Chronic | | | | | | | | 1 | | | | | | | | | | | 2 1.0 |
| Vacuolization Cytoplasmic | | 3 | 2 | | | 2 | | | | 2 | | 2 | | | 1 | 2 | | 2 | 13 2.0 |
| Oral Mucosa | | | | | | | | | | | | | | | | | | | 4 |
| Keratin Cyst | | | | | | | | | | | | | | | | | | | 3 |
| Pancreas | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Acinar Cell, Degeneration | | 2 | 2 | 2 | | | | | 1 | | | | 2 | 3 | 2 | 2 | 1 | | 23 1.9 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | 1 | | 2 1.0 |
| Lipomatosis | | | | | | 2 | | | | | | | | | | | | | 1 2.0 |
| Salivary Glands | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Stomach, Forestomach | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Edema | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Keratin Cyst | | | | | | | | | | | | | | | X | | | | 1 |
| Stomach, Glandular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cardiovascular System | | | | | | | | | | | | | | | | | | | |
| Blood Vessel | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Heart | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cardiomyopathy | | | 1 | | | 1 | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 3 | | 2 | 26 1.3 |
| Endocardium, Hyperplasia | | 2 | | | | | | | | | | | | | | | | | 1 2.0 |
| Endocrine System | | | | | | | | | | | | | | | | | | | |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

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Experiment Number: 99920-94
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 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
 Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
 CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:26
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1/50PPB TO CTL**

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|----------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 7 | 7 |
| | 8 | 9 | 5 | 6 | 7 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 1 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Adrenal Cortex | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Angiectasis | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Atrophy | | | | | | | | | | 2 | | | | | | | | | | 1 2.0 |
| Degeneration, Cystic | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 1 | | 1 | | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 42 2.2 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hypertrophy | | | | | | | | | | 2 | 2 | | | | | | 2 | | | 5 1.8 |
| Adrenal Medulla | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 2 1.5 |
| Islets, Pancreatic | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Parathyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 46 |
| Pituitary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Angiectasis | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Pars Distalis, Cyst | | | | | | | | | | | | | | | | | | | | 2 |
| Pars Distalis, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Pars Intermed, Cyst | | | | | | | | | | | | | | | | | | | | 1 |
| Thyroid Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| C Cell, Hyperplasia | | 2 | | 2 | | | | | | | | | | | | | | 4 | | 4 3.0 |
| Inflammation, Chronic | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Ultimobranchial Cyst | | | | | | | | | | | | 3 | | | | | | 3 | | 2 3.0 |

General Body System

NONE

Genital System

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

M ..Missing tissue

A ..Autolysis precludes evaluation

BLANK ..Not examined microscopically

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

**CD Rat Female
 F1/50PPB TO CTL**

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 7 | 7 |
| | 8 | 9 | 5 | 6 | 7 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 7 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Clitoral Gland | + | M | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 49 |
| Atrophy | | | | | | | | | | | | | | | | | | | | 2 2.5 |
| Duct, Dilatation | | | | 3 | | | | 3 | 2 | | | | | | | | | | | 9 2.3 |
| Duct, Hyperplasia, Squamous | 2 | | | | | | 2 | | | 3 | | | | | | | 3 | | | 5 2.4 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 3 2.0 |
| Inflammation | 3 | | | 2 | 1 | 2 | 3 | 2 | 2 | 3 | 3 | 4 | | | | 2 | 3 | 3 | | 34 2.1 |
| Keratin Cyst | | | | | | | | | | | | | | | | | | X | | 2 |
| Ovary | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Atrophy | | 2 | 2 | 4 | 4 | 2 | 3 | | 2 | 2 | 4 | 2 | 2 | 2 | 4 | 3 | 2 | 4 | 2 | 42 2.9 |
| Corpus Luteum, Cyst | | | | | | | | | | | | | | | | | | | | 2 |
| Cyst | X | | | X | X | X | X | | X | | | X | X | | | X | | | X | 17 |
| Hyperplasia, Sertoliform | | 2 | 3 | | 1 | 2 | 1 | 1 | | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 3 | 28 1.7 |
| Oviduct | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Uterus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Cervix, Muscularis, Hypertrophy | | | | | | | X | | | | | | | | | | | | | 1 |
| Endometrium, Hyperplasia | | | | 2 | | | | | | | | | | | | | | 2 | | 4 1.8 |
| Endometrium, Hyperplasia, Cystic | | | | 2 | | 2 | | | | 2 | 4 | 2 | | 3 | 2 | | | | | 22 2.2 |
| Hyperplasia, Atypical, Focal | | | | 1 | | | | | | 1 | | | | | 2 | | | | | 9 1.7 |
| Inflammation | | | | | | | | | | | | | | | | | | | | 3 2.7 |
| Metaplasia, Squamous | | | | | 1 | | | | | | | | | | | | | | | 1 1.0 |
| Vagina | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Inflammation | | | | 1 | | 2 | | | | 2 | | | | | | 2 | | 2 | | 18 1.6 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

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I ..Insufficient tissue

M ..Missing tissue

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Experiment Number: 99920-94
 Test Type: SPECIAL STUDY
 Route: DOSED FEED
 Species/Strain: Rat/CD

P09: NON-NEOPLASTIC LESIONS BY INDIVIDUAL ANIMAL
Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)
CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:26
 First Dose M/F: NA / NA
 Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

| | DAY ON TEST | | | | | | | | | | | | | | | | | | | |
|---|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 7 | 7 |
| | 8 | 9 | 5 | 6 | 7 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 1 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Mucocyte, Hyperplasia | 2 | 2 | 2 | 2 | 1 | 2 | 3 | | 2 | 3 | 1 | 3 | 4 | 2 | | 2 | 2 | | 3 | |
| Hematopoietic System | | | | | | | | | | | | | | | | | | | | |
| Bone Marrow | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Myeloid Cell, Hyperplasia | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Lymph Node | | | | + | | | | | | + | + | | | | + | + | + | | + | 13 |
| Inguinal, Degeneration, Cystic | | | | 2 | | | | | | | | | | | | | | | | 2 2.0 |
| Inguinal, Hyperplasia, Lymphoid | | | | 2 | | | | | | | | | | | | | | | | 2 2.5 |
| Inguinal, Infiltration Cellular, Plasma Cell | | | | 3 | | | | | | | | | | | | | | | | 2 3.0 |
| Lumbar, Degeneration, Cystic | | | | | | | | | | 4 | 3 | | | 2 | | | | | 3 | 5 3.0 |
| Lumbar, Hyperplasia, Lymphoid | | | | | | | | | | 3 | 2 | | | 2 | 2 | 3 | | 2 | | 7 2.3 |
| Lumbar, Infiltration Cellular, Plasma Cell | | | | | | | | | | 3 | 3 | | | 3 | 3 | 3 | | 3 | | 9 2.8 |
| Mediastinal, Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Mediastinal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | 3 | | | | 2 2.5 |
| Popliteal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Renal, Degeneration, Cystic | | | | | | | | | | | | | | | | 3 | | | | 3 2.7 |
| Renal, Hyperplasia, Lymphoid | | | | | | | | | | | | | | | | 2 | | | | 2 2.0 |
| Renal, Infiltration Cellular, Plasma Cell | | | | | | | | | | | | | | | | 3 | | | | 4 2.8 |
| Lymph Node, Mandibular | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Degeneration, Cystic | | | | | | 3 | 3 | 2 | | | | | | 2 | 4 | | | | 2 | 12 2.3 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hyperplasia, Lymphoid | | | | 2 | | | | | | 2 | 2 | | | | | 2 | | | | 5 2.0 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

+ ..Tissue examined microscopically

X ..Lesion present

I ..Insufficient tissue

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Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014

Time Report Requested: 13:29:27

First Dose M/F: NA / NA

Lab: NCTR

CD Rat Female
F1/50PPB TO CTL

| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|------------------------------------|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|
| ANIMAL ID | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 7 | 7 |
| | 8 | 9 | 5 | 6 | | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 1 | |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Infiltration Cellular, Plasma Cell | | 2 | 3 | 3 | | | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | | | 2 | 2 | 3 | 41 |
| Lymph Node, Mesenteric | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Degeneration, Cystic | | | | | | | | | | | | | | | | 2 | | | | 5 |
| Depletion Lymphoid | | | | | | | | | | | | 2 | | | | | | | | 1 |
| Hyperplasia, Lymphoid | | | | 2 | | | | | | | | | | | | | 2 | | | 7 |
| Infiltration Cellular, Plasma Cell | | | 2 | | | | | | | | | | | | | | | 2 | | 5 |
| Spleen | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hematopoietic Cell Proliferation | | 1 | 1 | | | | | 2 | | | | | | | | 1 | | 2 | | 10 |
| Pigmentation | 1 | 1 | 1 | 2 | 2 | | 2 | 2 | | | 1 | | 1 | | | 1 | | | | 30 |
| Thymus | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 48 |
| Cyst | | X | X | | X | | X | X | | X | | | X | | | X | | | X | 17 |
| Integumentary System | | | | | | | | | | | | | | | | | | | | |
| Mammary Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Alveolus, Hyperplasia | 1 | 2 | 3 | 2 | 2 | 3 | 4 | 2 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 3 | 45 |
| Atypical Focus | 1 | 2 | | 1 | 1 | | | 2 | | 1 | 1 | | 3 | | | 1 | 2 | | 1 | 18 |
| Duct, Dilatation | | | | | | | | | | | | | | | | 2 | | | | 4 |
| Duct, Inflammation | | | | | | | | | | | | | | | | | | | | 1 |
| Fibrosis | | | | | | | | | | | | | | | | | | | | 1 |
| Galactocele | | | | | | | | | | | | | | | | X | | X | | 3 |
| Lactation | | | | 2 | 2 | | | | | 2 | 3 | | | | | 2 | 2 | | 2 | 20 |
| Skin | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Inflammation | | 4 | 4 | 4 | | 4 | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 29 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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 Species/Strain: Rat/CD

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CAS Number: 57-63-6

Date Report Requested: 10/23/2014
 Time Report Requested: 13:29:27
 First Dose M/F: NA / NA
 Lab: NCTR

**CD Rat Female
 F1/50PPB TO CTL**

| CD Rat Female
F1/50PPB TO CTL | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--------|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 7 |
| | 8 | 9 | 5 | 6 | 7 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 4 | 1 |
| *TOTALS | | | | | | | | | | | | | | | | | | | | |
| Musculoskeletal System | | | | | | | | | | | | | | | | | | | | |
| Bone, Femur | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Skeletal Muscle | | | | | | | | | | | | | | | | | | | | 1 |
| Nervous System | | | | | | | | | | | | | | | | | | | | |
| Brain, Brain Stem | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Compression | | | | | 2 | | | 2 | | | 2 | 2 | | | | | | | | 19 2.4 |
| Hydrocephalus | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Brain, Cerebellum | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hemorrhage | | | | | | | | | | | | | | | | | | | | 1 3.0 |
| Hydrocephalus | | | | | | | | | | | | | | | | | | | | 2 1.5 |
| Brain, Cerebrum | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Hydrocephalus | | | | | 2 | | | | | | | | | | | | | | | 3 2.0 |
| Respiratory System | | | | | | | | | | | | | | | | | | | | |
| Lung | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |
| Artery, Mineralization | | | | | | | | | | | | | | | | 1 | | | | 1 1.0 |
| Edema | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Hemorrhage | | | | | | | | | | 2 | | | | | | | | | | 1 2.0 |
| Infiltration Cellular, Histiocyte | | 2 | | | | | | | 1 | | 3 | 2 | | | | 3 | | | | 8 2.0 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | | 1 1.0 |
| Inflammation | | 1 | | | | | | | | | | | | | | | | | | 3 1.7 |
| Nose | | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 |

* ..Total animals with tissue examined microscopically; Total animals with lesion and mean severity grade

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

CD Rat Female
F1/50PPB TO CTL

| CD Rat Female
F1/50PPB TO CTL | DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
|-----------------------------------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|-----|-----|-----|
| | | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | | |
| | | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | | |
| | ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | | |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 7 | 7 | | |
| | 8 | 9 | 5 | 6 | 7 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 1 | *TOTALS | | | |
| Foreign Body | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Inflammation | 2 | | | | | | | | | | | | | | | | | | | | 3 | 5 | 2.2 |
| Nasolacrim Dct, Inflammation | 2 | 2 | 2 | 1 | | 1 | 1 | | 1 | 2 | 2 | | | 1 | | 2 | 2 | | 2 | 33 | 1.8 | | |
| Olfactory Epi, Hyaline Droplet | 2 | | | | | | | | | | | | | | | | | | | | 2 | 1.5 | |
| Trachea | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Inflammation | 1 | | | | | | | | | | | | | | | | | | | | 1 | 6 | 1.2 |
| Special Senses System | | | | | | | | | | | | | | | | | | | | | | | |
| Eye | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 47 | | | |
| Bilateral, Retina, Degeneration | 2 | | | | | | | | | | | | | | | | | | | | | 3 | 2.0 |
| Cornea, Inflammation | 1 | | | | | | | | | | | | | | | | | | | | 2 | 1.5 | |
| Retina, Degeneration | 1 | | | | | | | | | | | | | | | | | | | | 2 | 1.0 | |
| Harderian Gland | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Hyperplasia | 1 | | | | | | | | | | | | | | | | | | | | 1 | 4 | 1.0 |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | | | 1 | 1.0 | |
| Inflammation | 1 | | | | | | | | | | | | | | | | | | | | 1 | 8 | 1.0 |
| Zymbal's Gland | | | | | | | | | | | | | | | | | | | | | 1 | | |
| Urinary System | | | | | | | | | | | | | | | | | | | | | | | |
| Kidney | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | 50 | | | |
| Cyst | X | | X | X | | | X | | | X | | | | X | | | | | | 9 | | | |
| Infiltration Cellular, Lymphocyte | | | | | | | | | | | | | | | | | | | | | 1 | 2.0 | |
| Mineralization | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2 | | 2 | 3 | 3 | | | | 35 | 1.9 | | |
| Nephropathy | 1 | | | 1 | | 1 | 1 | 1 | | 1 | 1 | 1 | | | | | 1 | | | 20 | 1.1 | | |

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

CD Rat Female
F1/50PPB TO CTL

| | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-------|
| DAY ON TEST | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 |
| ANIMAL ID | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 7 |
| | 7 | 7 | 2 | 2 | 2 | 7 | 7 | 2 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 2 | 2 | 7 | 7 |
| | 8 | 9 | 5 | 6 | 7 | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 1 | 2 | 3 | 4 | 3 | 4 | 1 | 1 |
| | *TOTALS | | | | | | | | | | | | | | | | | | | |
| Polycystic Kidney | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Renal Tubule, Hyperplasia, Focal | | | | | | | | | | | | | | | | | | | | 1 2.0 |
| Urinary Bladder | | | | | | | | | | | | | | | | | | | | 49 |

**** END OF REPORT ****

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