Experiment Number: 99920-93 Test Type: SPECIAL STUDY Route: DOSED FEED Species/Strain: Rat/CD

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

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol) CAS Number: 57-63-6 Date Report Requested: 10/23/2014 Time Report Requested: 11:54:01 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

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:01 First Dose M/F: NA / NA Lab: NCTR

Route: DOSED FEED

Species/Strain: Rat/CD

CD Rat MALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTI
Disposition Summary				
Animals Initially In Study	50	49	50	50
Early Deaths				
Moribund Sacrifice	13	16	13	12
Natural Death	7	6	6	3
Survivors				
Terminal Sacrifice	30	27	31	35
Animals Examined Microscopically	50	49	50	50
ALIMENTARY SYSTEM				
Esophagus	(50)	(48)	(50)	(50)
Intestine Large, Cecum	(45)	(43)	(47)	(47)
Lymphoma Malignant			1 (2%)	
Intestine Large, Colon	(45)	(43)	(48)	(48)
Adenoma	2 (4%)		1 (2%)	
Lymphoma Malignant			1 (2%)	
Intestine Large, Rectum	(45)	(44)	(48)	(48)
Anus, Sarcoma			1 (2%)	
Intestine Small, Duodenum	(44)	(43)	(47)	(47)
Adenocarcinoma	2 (5%)			
Lymphoma Malignant	1 (2%)			
Intestine Small, Ileum	(44)	(38)	(47)	(47)
Intestine Small, Jejunum	(44)	(41)	(45)	(46)
Liver	(49)	(47)	(50)	(49)
Cholangiocarcinoma	2 (4%)			
Cholangioma	1 (2%)		1 (2%)	
Hepatocellular Adenoma	1 (2%)			1 (2%)
Leukemia Mononuclear		1 (2%)	1 (2%)	

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:01 First Dose M/F: NA / NA Lab: NCTR

Experiment Number: 99920-93	
Test Type: SPECIAL STUDY	

Route: DOSED FEED

Species/Strain: Rat/CD

CD Rat MALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Lymphoma Malignant	1 (2%)	1 (2%)	1 (2%)	
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
Mesentery	(4)	(0)	(6)	(3)
Squamous Cell Carcinoma, Metastatic, Uncertain Primary Site			1 (17%)	
Oral Mucosa	(3)	(8)	(4)	(6)
Squamous Cell Carcinoma	3 (100%)	4 (50%)	1 (25%)	5 (83%)
Pancreas	(47)	(48)	(49)	(49)
Leukemia Mononuclear		1 (2%)		
Lymphoma Malignant	1 (2%)			
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
Salivary Glands	(48)	(49)	(49)	(50)
Lymphoma Malignant	1 (2%)		1 (2%)	
Stomach, Forestomach	(46)	(48)	(49)	(49)
Squamous Cell Carcinoma		1 (2%)		
Stomach, Glandular	(45)	(46)	(47)	(47)
CARDIOVASCULAR SYSTEM				
Blood Vessel	(50)	(49)	(50)	(50)
Heart	(50)	(49)	(50)	(50)
Endocardium, Schwannoma Malignant		1 (2%)		
Leukemia Mononuclear		1 (2%)		
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
ENDOCRINE SYSTEM				
Adrenal Cortex	(49)	(49)	(49)	(50)
Adenoma	1 (2%)	1 (2%)	1 (2%)	
Leukemia Mononuclear		1 (2%)	. ,	

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

Experiment Number: 99920-93
Test Type: SPECIAL STUDY
Route: DOSED FEED
Species/Strain: Rat/CD

CD Rat MALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Adrenal Medulla	(49)	(48)	(49)	(50)
Bilateral, Pheochromocytoma Benign			1 (2%)	
Pheochromocytoma Benign	4 (8%)	4 (8%)	5 (10%)	1 (2%)
Pheochromocytoma Malignant	1 (2%)		2 (4%)	1 (2%)
Islets, Pancreatic	(48)	(48)	(50)	(50)
Adenoma	2 (4%)	1 (2%)	3 (6%)	1 (2%)
Parathyroid Gland	(47)	(44)	(50)	(46)
Adenoma	1 (2%)	1 (2%)		
Pituitary Gland	(49)	(48)	(49)	(50)
Leukemia Mononuclear		1 (2%)		
Lymphoma Malignant	1 (2%)	1 (2%)	1 (2%)	
Pars Distalis, Adenoma	24 (49%)	20 (42%)	18 (37%)	26 (52%)
Pars Intermed, Adenoma		1 (2%)	1 (2%)	
Thyroid Gland	(48)	(49)	(50)	(50)
C Cell, Adenoma			1 (2%)	
C Cell, Carcinoma	3 (6%)		3 (6%)	1 (2%)
Follicular Cel, Adenoma		1 (2%)		
Lymphoma Malignant	1 (2%)		1 (2%)	
GENERAL BODY SYSTEM				
Tissue NOS	(0)	(0)	(0)	(1)
Sarcoma				1 (100%)
GENITAL SYSTEM				
Coagulating Gland	(47)	(49)	(48)	(50)
Carcinoma, Metastatic, Uncertain Primary Site				1 (2%)
Schwannoma Malignant				1 (2%)
Ductus Deferens	(0)	(0)	(0)	(1)
Epididymis	(49)	(49)	(50)	(50)

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

Experiment Number: 99920-93	
Test Type: SPECIAL STUDY	

Route: DOSED FEED

Species/Strain: Rat/CD

CD Rat MALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Lymphoma Malignant	1 (2%)			
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
Penis	(0)	(0)	(0)	(1)
Preputial Gland	(49)	(49)	(50)	(49)
Carcinoma		1 (2%)		1 (2%)
Lymphoma Malignant	1 (2%)			
Squamous Cell Carcinoma	2 (4%)	3 (6%)	4 (8%)	7 (14%)
Prostate, Dorsal/Lateral Lobe	(43)	(38)	(41)	(43)
Lymphoma Malignant	1 (2%)			
Schwannoma Malignant				1 (2%)
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (3%)		
Prostate, Dorsal/lateral Lobe	(7)	(10)	(9)	(7)
Prostate, Ventral Lobe	(49)	(48)	(50)	(50)
Lymphoma Malignant	1 (2%)			
Schwannoma Malignant				1 (2%)
Rete Testes	(46)	(45)	(43)	(44)
Seminal Vesicle	(44)	(44)	(47)	(47)
Lymphoma Malignant	1 (2%)		1 (2%)	
Testes	(50)	(49)	(50)	(50)
Interstit Cell, Adenoma		1 (2%)		1 (2%)
Lymphoma Malignant	1 (2%)			
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
HEMATOPOIETIC SYSTEM				
Bone Marrow	(49)	(49)	(50)	(50)
Leukemia Mononuclear		1 (2%)		
Lymphoma Malignant	1 (2%)	1 (2%)	1 (2%)	

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

Experiment Number: 99920-93
Test Type: SPECIAL STUDY
Route: DOSED FEED

Species/Strain: Rat/CD

CD Rat MALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Lymph Node	(14)	(16)	(13)	(16)
Axillary, Lymphoma Malignant	1 (7%)		1 (8%)	
Inguinal, Lymphoma Malignant	1 (7%)			
Lumbar, Lymphoma Malignant			1 (8%)	
Mediastinal, Lymphoma Malignant	1 (7%)	1 (6%)	1 (8%)	
Renal, Lymphoma Malignant			1 (8%)	
Lymph Node, Mandibular	(46)	(48)	(50)	(49)
Leukemia Mononuclear		1 (2%)		
Lymphoma Malignant	1 (2%)	1 (2%)	1 (2%)	
Lymph Node, Mesenteric	(44)	(46)	(49)	(48)
Leukemia Mononuclear		1 (2%)		
Lymphoma Malignant	1 (2%)		1 (2%)	
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
Spleen	(49)	(48)	(49)	(50)
Leukemia Mononuclear		1 (2%)	1 (2%)	
Lymphoma Malignant	1 (2%)	1 (2%)	1 (2%)	
Sarcoma				1 (2%)
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
Thymus	(47)	(45)	(47)	(45)
Leukemia Mononuclear		1 (2%)		
Lymphoma Malignant	2 (4%)		1 (2%)	
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
NTEGUMENTARY SYSTEM				
Mammary Gland	(42)	(42)	(40)	(45)
Adenocarcinoma				2 (4%)
Adenoma				1 (2%)

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

Experiment Number: 99920-93
Test Type: SPECIAL STUDY
Route: DOSED FEED

Species/Strain: Rat/CD

CD Rat MALE	F3 0P	PPB F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Fibroadenoma		2 (5%)		1 (2%)
Fibroma	1 (2%) 1 (2%)		
Skin	(50)	(49)	(50)	(50)
Basal Cell Adenoma	2 (4%)	1 (2%)	
Carcinoma				1 (2%)
Fibroma			1 (2%)	2 (4%)
Keratoacanthoma		2 (4%)	3 (6%)	1 (2%)
Lipoma		2 (4%)		2 (4%)
Sarcoma	1 (2%)		1 (2%)
Schwannoma Malignant			1 (2%)	
MUSCULOSKELETAL SYSTEM				
Bone	(0)	(1)	(1)	(0)
Cranium, Squamous Cell Carcinoma, Deep Invasion		1 (100%)		
Bone, Femur	(49)	(49)	(50)	(50)
Skeletal Muscle	(3)	(4)	(3)	(0)
Diaphragm, Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (25%)		
Lymphoma Malignant	1 (33%	ó)		
NERVOUS SYSTEM				
Brain	(0)	(0)	(0)	(1)
Cranial Nerve, Schwannoma Malignant				1 (100%)
Brain, Brain Stem	(49)	(49)	(50)	(50)
Reticulosis Malignant	. ,			1 (2%)
Brain, Cerebellum	(49)	(49)	(50)	(50)
Granular Cell Tumor Malignant	. ,		1 (2%)	
Brain, Cerebrum	(49)	(49)	(50)	(50)
Granular Cell Tumor Malignant	. ,		1 (2%)	

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

Species/Strain: Rat/CD

Experiment Number: 99920-93

CD Rat MALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Meninges, Granular Cell Tumor Benign				1 (2%)
Osteoma	1 (2%)			
Peripheral Nerve	(2)	(4)	(2)	(0)
RESPIRATORY SYSTEM				
Lung	(47)	(48)	(48)	(50)
Alveolar/Bronchiolar Adenoma			1 (2%)	
Leukemia Mononuclear		1 (2%)	1 (2%)	
Lymphoma Malignant	1 (2%)		1 (2%)	
Schwannoma Malignant, Metastatic, Skin			1 (2%)	
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)		
Squamous Cell Carcinoma, Metastatic, Uncertain Primary Site			1 (2%)	
Thymoma Malignant, Metastatic, Uncertain Primary Site				1 (2%)
Nose	(49)	(48)	(49)	(50)
Lymphoma Malignant	1 (2%)			
Osteosarcoma				1 (2%)
Trachea	(49)	(49)	(50)	(50)
Lymphoma Malignant	1 (2%)			
SPECIAL SENSES SYSTEM				
Ear	(0)	(0)	(1)	(1)
Neural Crest Tumor				1 (100%)
Squamous Cell Papilloma			1 (100%)	
Eye	(46)	(47)	(48)	(50)
Iris, Melanoma Benign				1 (2%)
Lymphoma Malignant	1 (2%)		1 (2%)	
Retrobulbar, Squamous Cell Carcinoma, Deep Invasion	1 (2%)			

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

b - Primary tumors: all tumors except metastatic tumors

F3/50PPBTO CTL

(50)

(1)

(0)

(50)

1 (2%)

(0)

(50)

*(50)

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

CD Rat MALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL
Harderian Gland	(49)	(48)	(50)
Lymphoma Malignant	1 (2%)		1 (2%)
Lacrimal Gland	(1)	(1)	(2)
Lymphoma Malignant	1 (100%)		1 (50%)
Zymbal's Gland	(1)	(0)	(2)
Carcinoma	1 (100%)		1 (50%)
Squamous Cell Carcinoma			1 (50%)
URINARY SYSTEM			
Kidney	(49)	(48)	(50)
Leukemia Mononuclear		1 (2%)	
Liposarcoma			
Lymphoma Malignant	1 (2%)		1 (2%)
Sarcoma		1 (2%)	
Squamous Cell Carcinoma, Metastatic, Stomach, Forestomach		1 (2%)	

(3)

(49)

*(50)

2 (4%)

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

b - Primary tumors: all tumors except metastatic tumors

* Number of animals with any tissue examined microscopically

(1)

(48)

*(49)

1 (2%)

1 (2%)

(1)

(49)

*(50)

1 (2%)

1 (2%)

Experiment Number: 99920-93 Test Type: SPECIAL STUDY

Route: DOSED FEED

Urethra

Urinary Bladder SYSTEMIC LESIONS

Multiple Organ

Leukemia Mononuclear

Lymphoma Malignant

Species/Strain: Rat/CD

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

END OF MALE DATA

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

b - Primary tumors: all tumors except metastatic tumors

* Number of animals with any tissue examined microscopically

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

Experiment Number: 99920-93 Test Type: SPECIAL STUDY Route: DOSED FEED Species/Strain: Rat/CD

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

Route: DOSED FEED

Species/Strain: Rat/CD

CD Rat FEMALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Disposition Summary				
Animals Initially In Study	52	50	50	50
Early Deaths				
Moribund Sacrifice	24	19	23	21
Natural Death	1	2	5	3
Survivors				
Moribund Sacrifice			1	2
Terminal Sacrifice	27	29	21	24
Animals Examined Microscopically	52	50	50	50
ALIMENTARY SYSTEM				
Esophagus	(52)	(49)	(50)	(50)
Intestine Large, Cecum	(51)	(49)	(49)	(50)
Lymphoma Malignant			1 (2%)	1 (2%)
Intestine Large, Colon	(52)	(50)	(50)	(50)
Lymphoma Malignant				1 (2%)
Intestine Large, Rectum	(51)	(49)	(50)	(50)
Adenoma	1 (2%)			
Intestine Small, Duodenum	(52)	(49)	(50)	(50)
Intestine Small, Ileum	(52)	(49)	(49)	(50)
Intestine Small, Jejunum	(51)	(49)	(48)	(50)
Carcinoma		1 (2%)	1 (2%)	
Leiomyoma		1 (2%)		
Liver	(52)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus	1 (2%)			
Carcinoma, Metastatic, Intestine Small, Jejunum		1 (2%)		
Cholangiocarcinoma	1 (2%)	1 (2%)		
Cholangioma				1 (2%)

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

CD Rat FEMALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Hepatocellular Adenoma	2 (4%)			
Hepatocellular Carcinoma		1 (2%)		
Histiocytic Sarcoma			1 (2%)	
Leukemia Mononuclear, Metastatic, Spleen	1 (2%)			
Lymphoma Malignant			1 (2%)	1 (2%)
Mesothelioma Malignant			1 (2%)	
Nephroblastoma, Metastatic, Kidney	1 (2%)			
Mesentery	(3)	(3)	(4)	(4)
Adenocarcinoma, Metastatic, Uterus	1 (33%)			
Lymphoma Malignant			1 (25%)	1 (25%)
Mesothelioma Malignant		1 (33%)	1 (25%)	
Nephroblastoma, Metastatic, Kidney	1 (33%)			
Oral Mucosa	(2)	(4)	(7)	(2)
Fibrous Histiocytoma			1 (14%)	
Squamous Cell Carcinoma	2 (100%)	1 (25%)	2 (29%)	1 (50%)
Pancreas	(52)	(49)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus	1 (2%)			
Salivary Glands	(52)	(50)	(50)	(50)
Lymphoma Malignant			1 (2%)	
Stomach, Forestomach	(52)	(49)	(50)	(50)
Adenocarcinoma, Metastatic, Uterus	1 (2%)			
Squamous Cell Carcinoma				1 (2%)
Squamous Cell Papilloma	1 (2%)		2 (4%)	
Stomach, Glandular	(52)	(49)	(50)	(50)
Leiomyosarcoma	1 (2%)			
Tongue	(0)	(1)	(0)	(0)
ARDIOVASCULAR SYSTEM				
Blood Vessel	(52)	(50)	(50)	(50)
	X- /	\/	\/	()

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

CD Rat FEMALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Heart	(52)	(50)	(50)	(50)
ENDOCRINE SYSTEM				
Adrenal Cortex	(52)	(50)	(50)	(50)
Adenoma	2 (4%)	2 (4%)	1 (2%)	
Adrenal Medulla	(52)	(50)	(50)	(50)
Pheochromocytoma Benign				1 (2%)
Islets, Pancreatic	(52)	(49)	(50)	(50)
Adenoma	1 (2%)			1 (2%)
Parathyroid Gland	(48)	(45)	(47)	(44)
Pituitary Gland	(52)	(50)	(50)	(50)
Pars Distalis, Adenoma	32 (62%)	30 (60%)	36 (72%)	32 (64%)
Thyroid Gland	(52)	(49)	(50)	(50)
Bilateral, C Cell, Adenoma				1 (2%)
C Cell, Adenoma	1 (2%)	1 (2%)	1 (2%)	1 (2%)
C Cell, Carcinoma	1 (2%)		1 (2%)	
GENERAL BODY SYSTEM				
Tissue NOS	(0)	(0)	(1)	(1)
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung				1 (100%)
Squamous Cell Carcinoma, Deep Invasion			1 (100%)	
GENITAL SYSTEM				
Clitoral Gland	(50)	(50)	(49)	(48)
Adenoma		1 (2%)	1 (2%)	2 (4%)
Lymphoma Malignant			1 (2%)	
Ovary	(51)	(50)	(50)	(50)
Granulosa Cell Tumor Benign		1 (2%)	1 (2%)	2 (4%)
Granulosa Cell Tumor Malignant		1 (2%)		

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

b - Primary tumors: all tumors except metastatic tumors

Experiment Number: 99920-93

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

CD Rat FEMALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Lymphoma Malignant			1 (2%)	
Mesothelioma Malignant			1 (2%)	
Sertoli Cell Tumor Benign		2 (4%)	1 (2%)	
Oviduct	(51)	(49)	(50)	(50)
Uterus	(52)	(50)	(50)	(50)
Endometrium, Adenocarcinoma	4 (8%)	1 (2%)		
Endometrium, Adenoma	1 (2%)	1 (2%)	2 (4%)	
Leiomyoma				1 (2%)
Lymphoma Malignant			1 (2%)	
Nephroblastoma, Metastatic, Kidney	1 (2%)			
Polyp Stromal	1 (2%)	7 (14%)	2 (4%)	5 (10%)
Vagina	(51)	(50)	(50)	(50)
Lymphoma Malignant			1 (2%)	
Nephroblastoma, Metastatic, Kidney	1 (2%)			
HEMATOPOIETIC SYSTEM				
Bone Marrow	(52)	(50)	(50)	(50)
Lymphoma Malignant			1 (2%)	
Schwannoma Malignant, Metastatic, Skin	1 (2%)			
Lymph Node	(10)	(17)	(10)	(5)
Axillary, Lymphoma Malignant			1 (10%)	
Deep Cervical, Lymphoma Malignant			1 (10%)	
Lumbar, Lymphoma Malignant			1 (10%)	
Mediastinal, Lymphoma Malignant			1 (10%)	
Renal, Lymphoma Malignant			1 (10%)	
Lymph Node, Mandibular	(51)	(50)	(50)	(50)
Carcinoma, Metastatic, Zymbal'S Gland			1 (2%)	
Lymphoma Malignant			1 (2%)	1 (2%)
Lymph Node, Mesenteric	(51)	(49)	(50)	(49)

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

b - Primary tumors: all tumors except metastatic tumors

Experiment Number: 99920-93

Test Type: SPECIAL STUDY

Route: DOSED FEED

Species/Strain: Rat/CD

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

F3/50PPBTO CTL

1 (2%)

(50)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

CD Rat FEMALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL
Lymphoma Malignant			
Nephroblastoma, Metastatic, Kidney	1 (2%)		
Spleen	(52)	(50)	(50)
Leukemia Mononuclear	1 (2%)		
Lymphoma Malignant			1 (2%)
Mesothelioma Malignant			1 (2%)
Thymus	(50)	(45)	(46)
Histiocytic Sarcoma			1 (2%)
Lymphoma Malignant			1 (2%)
TEGUMENTARY SYSTEM			
Mammary Gland	(52)	(50)	(50)
Adenocarcinoma	6 (12%)	4 (8%)	6 (12%)

epicen		(00)	(00)	(00)
Leukemia Mononuclear	1 (2%)			
Lymphoma Malignant			1 (2%)	1 (2%)
Mesothelioma Malignant			1 (2%)	
Thymus	(50)	(45)	(46)	(49)
Histiocytic Sarcoma			1 (2%)	
Lymphoma Malignant			1 (2%)	1 (2%)
INTEGUMENTARY SYSTEM				
Mammary Gland	(52)	(50)	(50)	(50)
Adenocarcinoma	6 (12%)	4 (8%)	6 (12%)	10 (20%)
Adenocarcinoma, Multiple		2 (4%)	3 (6%)	
Fibroadenoma	17 (33%)	13 (26%)	21 (42%)	13 (26%)
Fibroadenoma, Multiple	19 (37%)	21 (42%)	19 (38%)	24 (48%)
Lymphoma Malignant			1 (2%)	
Skin	(52)	(50)	(50)	(50)
Basal Cell Adenoma				1 (2%)
Ear, Basal Cell Adenoma		1 (2%)		
Fibroma		2 (4%)		1 (2%)
Fibrous Histiocytoma			1 (2%)	
Histiocytic Sarcoma			1 (2%)	
Lipoma	1 (2%)			
Lymphoma Malignant			1 (2%)	
Sarcoma	1 (2%)		1 (2%)	1 (2%)
Schwannoma Malignant	1 (2%)			

MUSCULOSKELETAL SYSTEM

Experiment Number: 99920-93

Test Type: SPECIAL STUDY

Route: DOSED FEED

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

CAS Number: 57-63-6

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

Species/Strain: Rat/CD

CD Rat FEMALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Bone	(0)	(1)	(0)	(0)
Bone, Femur	(52)	(50)	(50)	(50)
Skeletal Muscle	(3)	(4)	(0)	(1)
Diaphragm, Adenocarcinoma, Metastatic, Uterus	1 (33%)			
Diaphragm, Granulosa Cell Tumor Malignant, Metastatic, Ovary		1 (25%)		
Diaphragm, Mesothelioma Malignant, Metastatic, Mesentery		1 (25%)		
Diaphragm, Nephroblastoma, Metastatic, Kidney	1 (33%)			
NERVOUS SYSTEM				
Brain, Brain Stem	(52)	(50)	(50)	(50)
Brain, Cerebellum	(51)	(50)	(50)	(50)
Astrocytoma Malignant				1 (2%)
Brain, Cerebrum	(52)	(50)	(50)	(50)
Meninges, Lymphoma Malignant			1 (2%)	
Peripheral Nerve	(0)	(1)	(0)	(1)
Spinal Cord	(0)	(1)	(0)	(1)
RESPIRATORY SYSTEM				
Lung	(52)	(50)	(50)	(50)
Adenocarcinoma, Metastatic, Mammary Gland			1 (2%)	1 (2%)
Alveolar/Bronchiolar Adenoma	1 (2%)			1 (2%)
Alveolar/Bronchiolar Carcinoma	· · ·			1 (2%)
Carcinoma, Metastatic, Thyroid Gland	1 (2%)		1 (2%)	· · ·
Carcinoma, Metastatic, Zymbal'S Gland	· · ·		1 (2%)	
Histiocytic Sarcoma			1 (2%)	
Lymphoma Malignant			1 (2%)	1 (2%)

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

Species/Strain: Rat/CD

CD Rat FEMALE	F3 0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL
Mesothelioma Malignant, Metastatic, Mesentery		1 (2%)		
Nose	(52)	(50)	(50)	(50)
Lymphoma Malignant			1 (2%)	
Trachea	(52)	(49)	(50)	(50)
SPECIAL SENSES SYSTEM				
Ear	(0)	(0)	(2)	(0)
Neural Crest Tumor			2 (100%)	
Eye	(52)	(50)	(49)	(50)
Harderian Gland	(52)	(50)	(50)	(50)
Lymphoma Malignant			1 (2%)	
Squamous Cell Carcinoma, Deep Invasion			1 (2%)	
Zymbal's Gland	(0)	(0)	(1)	(0)
Carcinoma			1 (100%)	
URINARY SYSTEM				
Kidney	(52)	(50)	(50)	(50)
Lipoma	1 (2%)			
Liposarcoma				1 (2%)
Lymphoma Malignant			1 (2%)	
Nephroblastoma	1 (2%)			1 (2%)
Renal Tubule, Adenoma			1 (2%)	1 (2%)
Urinary Bladder	(52)	(49)	(49)	(50)
Lymphoma Malignant			1 (2%)	
Transit Epithe, Papilloma				1 (2%)
SYSTEMIC LESIONS				
Multiple Organ	*(52)	*(50)	*(50)	*(50)
Histiocytic Sarcoma			1 (2%)	

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

b - Primary tumors: all tumors except metastatic tumors

xperiment Number: 99920-93 est Type: SPECIAL STUDY oute: DOSED FEED pecies/Strain: Rat/CD			CIDENCE RATES OF N est Compound: ENDOCF CAS Nu		Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR	
CD Rat FEMALE	F3	0PPB	F3/2PPB TO CTL	F3/10PPBTO CTL	F3/50PPBTO CTL	
Leukemia Mononuclear	1	(2%)				
Lymphoma Malignant				1 (2%)	1 (2%)	
Mesothelioma Malignant			1 (2%)	1 (2%)		

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

b - Primary tumors: all tumors except metastatic tumors

Test Compound: ENDOCRINE DISRUPTOR(Ethinyl Estradiol)

F3/10PPBTO CTL

F3/50PPBTO CTL

CAS Number: 57-63-6

F3/2PPB TO CTL

Date Report Requested: 10/23/2014 Time Report Requested: 11:54:02 First Dose M/F: NA / NA Lab: NCTR

umor Summary for FEMALE				
Total Animals with Primary Neoplasms (b)	50	48	48	48
Total Primary Neoplasms	100	96	112	107
Total Animals with Benign Neoplasms	46	47	46	44
Total Benign Neoplasms	81	83	88	89
Total Animals with Malignant Neoplasms	15	12	16	16
Total Malignant Neoplasms	19	13	22	18
Total Animals with Metastatic Neoplasms	5	3	3	2
Total Metastatic Neoplasms	14	4	4	2
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain - Benign or Malignant			2	
Total Uncertain Neoplasms			2	
Total Uncertain Neoplasms		** END OF F		

0PPB

F3

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

b - Primary tumors: all tumors except metastatic tumors

* Number of animals with any tissue examined microscopically

CD Rat FEMALE