TDMS No. 99037 - 05

Test Type: CHRONIC Route: GAVAGE Species/Strain: RATS/F 344/N

## P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 08/18/2010 AVERAGE SEVERITY GRADES[b]

alpha/beta Thujone mixture **CAS Number:** THUJONEMIXAB

Time Report Requested: 08:14:26 First Dose M/F: 06/09/03 / 06/09/03 Lab: SRI

F2\_R2

C Number:	C99037B
Lock Date:	11/20/2006
Cage Range:	ALL
Date Range:	ALL
Reasons For Removal:	ALL
Removal Date Range:	ALL
Treatment Groups:	Include ALL
Study Gender:	Both
TDMSE Version:	2.2.0

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Test Type: CHRONIC		Time Report Requested: 08:14:26			
Route: GAVAGE		CAS Number: T	HUJONEMIXAB		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Disposition Summary					
Animals Initially In Study	50	50	50	50	
Early Deaths					
Dosing Accident	2		1		
Moribund Sacrifice	14	21	13	1	
Natural Death	7	4	19	49	
Survivors					
Natural Death	1				
Terminal Sacrifice	26	25	17		
Animals Examined Microscopically	50	50	50	50	
ALIMENTARY SYSTEM					
Esophagus	(50)	(50)	(50)	(50)	
Hemorrhage	1 [2.0]				
Hyperkeratosis				1 [2.0]	
Inflammation, Acute	2 [3.0]				
Perforation	1				
Intestine Large, Cecum	(48)	(48)	(40)	(39)	
Edema	1 [4.0]				
Inflammation, Acute	1 [2.0]				
Necrosis, Lymphoid				1 [1.0]	
Intestine Large, Colon	(44)	(47)	(33)	(15)	
Edema	2 [3.0]	1 [2.0]	1 [2.0]		
Hemorrhage			1 [1.0]		
Necrosis			1 [2.0]		
Intestine Large, Rectum	(46)	(48)	(41)	(42)	
Inflammation, Chronic				1 [2.0]	
Intestine Small, Duodenum	(48)	(48)	(37)	(33)	
Necrosis, Lymphoid				1 [1.0]	
Intestine Small, Ileum	(43)	(47)	(30)	(16)	
Inflammation, Acute			1 [1.0]	1 [1.0]	
Inflammation, Chronic Active	1 [2.0]				
Necrosis	1 [1.0]	1 [1.0]			
Intestine Small, Jejunum	(43)	(47)	(33)	(25)	

TDMS No. 99037 - 05

## P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 08/18/2010 AVERAGE SEVERITY GRADES[b]

Test Type: CHRONIC Route: GAVAGE Species/Strain: RATS/F 344/N		alpha/beta Th CAS Number: T	Time Report Requested: 08:14:26 First Dose M/F: 06/09/03 / 06/09/03 Lab: SRI		
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Liver	(50)	(50)	(50)	(50)	
Basophilic Focus	29	26	25	4	
Clear Cell Focus	19	23	11	4	
Degeneration, Cystic	13 [1.4]	7 [1.4]	4 [1.5]	2 [1.0]	
Eosinophilic Focus	6	4	4	1	
Fibrosis				1 [1.0]	
Hematopoietic Cell Proliferation		1 [1.0]			
Hepatodiaphragmatic Nodule	8	3	5	3	
Infiltration Cellular, Mixed Cell	21 [1.1]	22 [1.3]	18 [1.1]	9 [1.1]	
Mixed Cell Focus	3	6	3	2	
Necrosis, Focal		1 [1.0]		3 [1.7]	
Thrombosis		1			
Bile Duct, Hyperplasia	41 [2.3]	45 [2.6]	40 [2.4]	20 [2.1]	
Centrilobular, Necrosis		1 [4.0]	1 [4.0]	5 [2.8]	
Hepatocyte, Vacuolization Cytoplasmic	7 [2.3]	10 [2.6]	4 [3.0]	1 [1.0]	
Hepatocyte, Vacuolization Cytoplasmic, Focal		2 [1.0]	1 [1.0]	1 [1.0]	
Kupffer Cell, Pigmentation		4 [1.8]			
Mesentery	(11)	(10)	(11)	(4)	
Accessory Spleen		1	1	2	
Hemorrhage			1 [4.0]	1 [4.0]	
Fat, Necrosis	10 [2.4]	9 [1.9]	8 [2.1]	1 [2.0]	
Oral Mucosa	(0)	(1)	(0)	(1)	
Pancreas	(50)	(50)	(50)	(50)	
Atrophy	29 [1.7]	35 [1.9]	30 [1.8]	18 [1.8]	
Cyst	21	25	15	6	
Hemorrhage				1 [2.0]	
Necrosis		1 [3.0]		1 [1.0]	
Acinus, Hyperplasia, Focal	8 [1.8]	1 [1.0]	6 [2.5]		
Salivary Glands	(50)	(50)	(50)	(50)	
Atrophy	7 [1.1]	4 [1.8]	9 [1.3]		
Hyperplasia				1 [1.0]	
Inflammation, Acute	1 [1.0]		1 [2.0]		
Inflammation, Chronic		2 [1.5]			
Necrosis				1 [3.0]	
Duct, Hyperplasia	1 [1.0]				
Stomach, Forestomach	(50)	(50)	(50)	(49)	

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Test Type: CHRONIC		Time Report Requested: 08:14:26			
Route: GAVAGE		alpha/beta Th CAS Number: T	•		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Edema	2 [3.0]	4 [2.3]	1 [4.0]		
Erosion	1 [1.0]				
Inflammation, Chronic Active			1 [2.0]		
Stromal Hyperplasia				1 [3.0]	
Ulcer	1 [4.0]	3 [2.7]	2 [4.0]		
Epithelium, Hyperplasia	9 [2.3]	12 [2.2]	13 [1.7]	3 [2.0]	
Stomach, Glandular	(50)	(50)	(49)	(48)	
Cyst	( ),	1			
Edema		2 [2.0]	1 [3.0]		
Erosion	3 [1.0]	6 [1.7]	6 [2.0]	1 [2.0]	
Hemorrhage	- []	- [ · · · ]	• [=·•]	2 [1.0]	
Inflammation		1 [1.0]		-[]	
Necrosis, Lymphoid		1[1.0]		2 [2.0]	
Ulcer	2 [3.0]	5 [2.6]	2 [3.0]	2 [2.0]	
CARDIOVASCULAR SYSTEM					
Heart	(50)	(50)	(50)	(50)	
Cardiomyopathy	44 [1.4]	41 [1.4]	47 [1.4]	45 [1.3]	
Hemorrhage				2 [2.0]	
Hypertrophy		1 [2.0]			
Thrombosis	3	4	2		
Epicardium, Inflammation		1 [1.0]			
ENDOCRINE SYSTEM					
Adrenal Cortex	(50)	(50)	(49)	(50)	
Accessory Adrenal Cortical Nodule	21 [1.3]	19 [1.2]	21 [1.5]	4 [1.0]	
Degeneration, Fatty	26 [1.5]	28 [1.7]	31 [1.5]	34 [1.2]	
Hematopoietic Cell Proliferation	2 [1.0]	2 [1.5]			
Hyperplasia, Focal	17 [1.4]	11 [1.4]	9 [1.8]	4 [1.3]	
Hypertrophy, Focal	6 [2.0]	2 [1.5]			
Necrosis	1 [1.0]	3 [1.3]	1 [2.0]	2 [1.5]	
Bilateral, Necrosis	1 [4.0]	- []	[]	· ·-1	
Capsule, Hyperplasia	1 [2.0]		1 [1.0]		
a - Number of animals examined microsc		of onimals with logicy			

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Test Type: CHRONIC		Time Report Requested: 08:14:26			
Route: GAVAGE		alpha/beta Th <b>CAS Number:</b> T	•		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Adrenal Medulla	(50)	(50)	(49)	(49)	
Hyperplasia	18 [1.8]	25 [1.9]	13 [2.2]	1 [3.0]	
Infiltration Cellular, Lymphocyte		2 [1.0]	[=.=]	. [0.0]	
Islets, Pancreatic	(50)	(50)	(50)	(50)	
Hyperplasia	3 [1.3]	(00)	3 [3.0]	1 [3.0]	
Parathyroid Gland	(48)	(49)	(47)	(49)	
Hyperplasia, Focal	(10)	1 [2.0]	1 [2.0]	()	
Pituitary Gland	(50)	(50)	(50)	(49)	
Pigmentation	7 [1.4]	6 [1.7]	9 [1.8]	1 [1.0]	
Pars Distalis, Angiectasis	2 [2.0]	2 [1.5]	1 [2.0]	3 [1.7]	
Pars Distalis, Atrophy	2 [2:0]	1 [3.0]	1 [4.0]	2 [3.0]	
Pars Distalis, Cyst	6	3	4	2 [0.0]	
Pars Distalis, Hemorrhage	0	Ũ	I	2 [2.5]	
Pars Distalis, Hyperplasia, Focal	16 [1.9]	13 [1.8]	3 [1.3]	5 [2.6]	
Pars Distalis, Necrosis	10 [1:0]	10 [1.0]	0[1.0]	1 [4.0]	
Pars Distalis, Pars Intermedia, Necrosis				1 [4.0]	
Pars Intermedia, Angiectasis		4 [2.5]	1 [1.0]	1 [1.0]	
Pars Intermedia, Cyst	4	4 [2.0]	1	1 [1.0]	
Pars Intermedia, Hyperplasia, Focal	2 [1.5]	1 [1.0]	I		
Rathke's Cleft, Dilatation	2 [1.0]	3 [2.0]	1 [1.0]	3 [1.3]	
Thyroid Gland	(46)	(48)	(42)	(45)	
Degeneration, Cystic	7 [1.1]	6 [1.0]	4 [1.0]	7 [1.3]	
Ultimobranchial Cyst	2 [1.5]	2 [1.0]	1 [1.0]	2 [1.5]	
C-cell, Hyperplasia	2 [1.5] 2 [2.5]	7 [2.4]	2 [3.0]	2 [1.0]	
Follicular Cell, Hyperplasia, Focal	۲ [۲.0]	7 [2.4] 2 [2.5]	2 [3.0] 1 [2.0]	1 [4.0]	
		د [۲.0]	1 [2.0]	1 [4.0]	
GENERAL BODY SYSTEM					
Tissue NOS	(1)	(1)	(2)	(0)	
GENITAL SYSTEM					
Epididymis	(50)	(50)	(50)	(50)	
Granuloma Sperm	(00)	1 [2.0]		(	
Penis	(0)	(1)	(0)	(1)	

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Test Type: CHRONIC		Time Report Requested: 08:14:26			
Route: GAVAGE		CAS Number: T	HUJONEMIXAB		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Inflammation, Acute		1 [2.0]			
Preputial Gland	(49)	(49)	(50)	(50)	
Cyst	(+3)	(40)	(00)	(00)	
Hyperplasia	2 [2.5]		1 [3.0]		
Inflammation, Chronic	13 [2.5]	19 [2.1]	18 [2.2]	5 [2.2]	
Necrosis	15 [2.5]	1 [4.0]	10 [2.2]	5 [2.2]	
	(50)		(50)	(50)	
Prostate	(50)	(50)	(50)	(50)	
Fibrosis	1 [2.0]	20 [2 4]	1 [2.0]	0 [2 0]	
Inflammation, Chronic	32 [1.8]	20 [2.1]	23 [2.3]	9 [2.0]	
Mineralization		1 [2.0]	4 [4 0]		
	00 [4 0]	1 [3.0]	1 [4.0]		
Epithelium, Hyperplasia	23 [1.3]	17 [1.6]	18 [1.3]	4 [1.5]	
Seminal Vesicle	(50)	(50)	(50)	(50)	
Hyperplasia		1 [2.0]			
Infiltration Cellular				1 [4.0]	
Inflammation, Acute		1 [4.0]	1 [1.0]	1 [1.0]	
Inflammation, Chronic		1 [3.0]			
Necrosis		1 [3.0]			
Testes	(50)	(50)	(50)	(50)	
Germinal Epithelium, Atrophy	5 [2.2]	2 [3.5]	3 [2.7]	4 [3.5]	
Interstitial Cell, Hyperplasia	9 [1.3]	5 [1.6]	6 [1.7]	13 [1.7]	
HEMATOPOIETIC SYSTEM				,	
Bone Marrow	(50)	(50)	(50)	(50)	
Hyperplasia	7 [2.6]	7 [2.7]	12 [2.3]	4 [1.8]	
Myelofibrosis	5 [1.6]	4 [2.0]			
Necrosis		1 [2.0]			
Thrombosis		1			
Lymph Node	(12)	(14)	(12)	(5)	
Mediastinal, Ectasia	1 [3.0]				
Mediastinal, Hemorrhage	2 [3.0]			1 [1.0]	
Mediastinal, Hyperplasia, Lymphoid	1 [2.0]	1 [4.0]	3 [3.0]	1 [2.0]	
Mediastinal, Pigmentation			1 [3.0]		
Pancreatic, Hemorrhage	1 [1.0]			1 [4.0]	

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Test Type: CHRONIC		alpha/beta Th	ujone mixture		Time Report Requested: 08:14:26
Route: GAVAGE		CAS Number: ⊤	HUJONEMIXAB		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N				,	Lab: SRI
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Pancreatic, Hyperplasia, Lymphoid		1 [2.0]		3 [2.0]	
Pancreatic, Necrosis, Lymphoid		. []		1 [1.0]	
Pancreatic, Pigmentation	1 [1.0]			1 [2.0]	
Lymph Node, Mandibular	(2)	(0)	(0)	(3)	
Congestion	(-)	(-)	(-)	1 [2.0]	
Hyperplasia, Lymphoid				1 [2.0]	
Lymph Node, Mesenteric	(50)	(49)	(50)	(50)	
Ectasia	1 [3.0]	1 [4.0]	1 [2.0]	(	
Hemorrhage	4 [1.3]	2 [1.0]	10 [1.6]	10 [1.3]	
Hyperplasia, Lymphoid	1 [2.0]	2 [3.0]	4 [2.0]	3 [2.3]	
Necrosis	. []	1 [2.0]	2 [2.0]	1 [2.0]	
Spleen	(50)	(50)	(49)	(48)	
Accessory Spleen	()	()	()	1	
Angiectasis	1 [4.0]				
Fibrosis	2 [2.0]	3 [3.0]	1 [2.0]		
Hematopoietic Cell Proliferation	6 [2.2]	7 [2.9]	1 [4.0]	1 [2.0]	
Hemorrhage	1 [3.0]	. []	.[]	.[]	
Infarct	1 [3.0]	1 [4.0]	1 [3.0]		
Necrosis	. []	1 [2.0]	2 [3.0]	3 [1.0]	
Pigmentation	19 [2.0]	24 [1.5]	30 [2.1]	46 [2.2]	
Lymphoid Follicle, Atrophy		1 [1.0]	2 [2.0]	1 [2.0]	
Lymphoid Follicle, Hyperplasia	10 [1.6]	12 [1.6]	8 [1.6]	3 [1.7]	
Thymus	(44)	(45)	(45)	(47)	
Cyst	· · · ·	1			
Ectopic Parathyroid Gland			1 [1.0]		
Fibrosis		1 [3.0]			
NTEGUMENTARY SYSTEM					
Mammary Gland	(48)	(47)	(49)	(42)	
Angiectasis		1 [3.0]			
Fibrosis	1 [3.0]				
Hyperplasia	2 [2.0]	1 [1.0]			
Duct, Ectasia	28 [1.9]	36 [1.6]	34 [1.8]	15 [1.5]	
Skin	(50)	(50)	(50)	(50)	

<b>FDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/201			
Fest Type: CHRONIC		AVERAGE SEVE			Time Report Requested: 08:14:26
Route: GAVAGE		CAS Number: ⊤	•		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Cyst Epithelial Inclusion		2	4		
Edema				1 [2.0]	
Hemorrhage				1 [2.0]	
Hyperkeratosis	1 [2.0]	3 [3.0]	5 [2.8]	1 [2.0]	
Inflammation, Granulomatous	1 [4.0]	0 [0:0]	0 [2:0]	. [=.0]	
Inflammation, Chronic	1 [ 1.0]		4 [2.3]	3 [1.7]	
Mineralization			1 [2.0]	0[1.7]	
Necrosis			1 [3.0]		
Ulcer			1 [0.0]	2 [3.5]	
Ulcer, Multiple				1 [3.0]	
-	1 [4 0]			1 [3.0]	
Epidermis, Hyperkeratosis	1 [4.0]	1 [2 0]	2 [2 2]		
Epidermis, Hyperplasia	4 [2 0]	1 [2.0]	3 [2.7]		
Epidermis, Hyperplasia, Focal	1 [3.0]	4			
Hair Follicle, Cyst		1	4 [4 0]		
Subcutaneous Tissue, Fibrosis			1 [1.0]		
MUSCULOSKELETAL SYSTEM					
Bone	(50)	(50)	(50)	(50)	
Femur, Osteopetrosis		2 [2.0]	2 [2.0]		
Skeletal Muscle	(2)	(4)	(2)	(0)	
Fibrosis		2 [3.5]			
NERVOUS SYSTEM					
Brain	(50)	(50)	(50)	(50)	
Compression	9	4	11	1	
Mineralization	-	-	1 [2.0]	1 [2.0]	
Necrosis			1 [4.0]	3 [2.7]	
Pigmentation		1 [1.0]	. []	3 [1.0]	
rightentation		. [1:0]		0[1.0]	
RESPIRATORY SYSTEM					
Lung	(50)	(50)	(50)	(50)	

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Fest Type: CHRONIC		Time Report Requested: 08:14:26			
Route: GAVAGE		alpha/beta Th CAS Number: T	•		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Infiltration Cellular, Histiocyte	31 [1.1]	43 [1.0]	33 [1.1]	18 [1.0]	
Inflammation, Chronic	1 [1.0]	6 [1.3]	2 [1.5]	4 [1.5]	
Metaplasia, Osseous	2 [1.0]	5 [1.4]	6 [1.2]	2 [1.5]	
Thrombosis				1	
Alveolar Epithelium, Hyperplasia	11 [1.7]	17 [1.2]	19 [1.5]	3 [2.0]	
Nose	(50)	(50)	(50)	(50)	
Congestion				1 [3.0]	
Foreign Body	11 [1.6]	8 [1.8]	9 [1.4]	1 [2.0]	
Inflammation, Chronic	13 [1.6]	15 [1.6]	13 [1.7]	2 [1.5]	
Goblet Cell, Hyperplasia	2 [1.5]	1 [2.0]	3 [1.7]	1 [2.0]	
Respiratory Epithelium, Hyperplasia	13 [1.4]	7 [1.6]	10 [1.6]	1 [1.0]	
Trachea	(50)	(50)	(50)	(50)	
Inflammation, Acute	1 [3.0]				
SPECIAL SENSES SYSTEM Eye Cataract Developmental Malformation Edema Hemorrhage Inflammation, Chronic Bilateral, Cataract Retina, Degeneration Harderian Gland Hyperplasia, Focal Inflammation, Chronic Pigmentation Zymbal's Gland	(49) 6 [1.3] 1 [3.0] 1 [4.0] 1 [4.0] (50) 1 [3.0] 3 [1.0] (0)	(50) 9 [1.7] 1 [2.0] 1 [3.0] 2 [2.5] 2 [1.5] 2 [3.0] (50) 1 [1.0] 4 [1.5] 1 [4.0] (1)	(46) 10 [1.3] 2 [1.5] (50) 4 [1.0] (1)	(48) 2 [2.5] 1 [3.0] (50) 1 [1.0] 5 [1.2] (0)	
JRINARY SYSTEM					
JRINARY SYSTEM Kidney	(48)	(48)	(44)	(49)	
	(48) 1 [3.0] 18 [1.1]	(48)	(44)	(49)	

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Test Type: CHRONIC		Time Report Requested: 08:14:26			
Route: GAVAGE		alpha/beta Th CAS Number: T	•		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS MALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Cyst	1	3			
Hydronephrosis	1 [2.0]	1 [3.0]			
Infarct	3 [2.3]	1 [3.0]			
Inflammation, Suppurative		2 [2.5]		1 [1.0]	
Mineralization	17 [1.0]	33 [1.4]	41 [1.6]	38 [1.5]	
Nephropathy	45 [1.5]	44 [1.7]	41 [1.7]	46 [1.3]	
Artery, Thrombosis	1				
Papilla, Necrosis	1 [3.0]				
Renal Tubule, Accumulation, Hyaline Droplet	1 [4.0]				
Renal Tubule, Necrosis				2 [2.5]	
Transitional Epithelium, Hyperplasia		1 [1.0]	4 [1.3]	2 [2.5]	
Urinary Bladder	(50)	(50)	(49)	(50)	
Atrophy		1 [3.0]			
Hemorrhage				1 [1.0]	
Inflammation, Acute		1 [4.0]			
Inflammation, Chronic		1 [2.0]		1 [1.0]	
Necrosis		1 [4.0]			
Transitional Epithelium, Hyperplasia		1 [1.0]		1 [2.0]	

\*\*\* END OF MALE \*\*\*

a - Number of animals examined microscopically at site and number of animals with lesion b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Test Type: CHRONIC		Time Report Requested: 08:14:26			
Route: GAVAGE		alpha/beta Th CAS Number: T			First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Disposition Summary					
	50	50	50	50	
Animals Initially In Study	50	50	50	50	
Early Deaths		•	10	-	
Moribund Sacrifice	6	9	10	5	
Natural Death Survivors	9	8	21	45	
Survivors Terminal Sacrifice	25	22	10		
Animals Examined Microscopically	35 50	33 50	19 50	50	
Ammais Examined Microscopically	50	50	50	50	
ALIMENTARY SYSTEM					
Esophagus	(50)	(50)	(50)	(50)	
Diverticulum	1				
Intestine Large, Cecum	(41)	(44)	(39)	(47)	
Hemorrhage		1 [1.0]			
Intestine Large, Colon	(41)	(43)	(33)	(25)	
Intestine Large, Rectum	(46)	(45)	(41)	(47)	
Hemorrhage				1 [3.0]	
Intestine Small, Duodenum	(44)	(45)	(40)	(47)	
Necrosis			1 [1.0]		
Necrosis, Lymphoid				1 [1.0]	
Intestine Small, Jejunum	(41)	(42)	(33)	(31)	
Necrosis, Lymphoid				1 [1.0]	
Liver	(50)	(50)	(49)	(50)	
Angiectasis	1 [2.0]		1 [2.0]		
Basophilic Focus	46	46	40	12	
Clear Cell Focus	17	21	11		
Eosinophilic Focus	8	2	2		
Hematopoietic Cell Proliferation	1 [1.0]	1 [1.0]	4 [1.0]		
Hepatodiaphragmatic Nodule	5	8	6	4	
Infiltration Cellular, Histiocyte				1 [2.0]	
Infiltration Cellular, Mixed Cell	30 [1.1]	30 [1.3]	32 [1.1]	19 [1.2]	
Inflammation, Chronic			1 [1.0]		
Mixed Cell Focus	10	4	4		
Necrosis, Focal	1 [1.0]	1 [1.0]	5 [1.4]	4 [1.5]	

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010			
Test Type: CHRONIC		alpha/beta Th	ujone mixture		Time Report Requested: 08:14:26
Route: GAVAGE		CAS Number: T	HUJONEMIXAB		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N					Lab: SRI
FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Artery, Inflammation		1 [3.0]	1 [3.0]		
Bile Duct, Hyperplasia	4 [1.5]	2 [1.5]	7 [2.0]		
Capsule, Fibrosis	1 [3.0]	2[1:0]	. [=:0]		
Centrilobular, Necrosis	1 [0.0]		3 [3.3]		
Hepatocyte, Vacuolization Cytoplasmic	5 [3.0]	4 [2.0]	3 [2.7]		
Kupffer Cell, Pigmentation	0 [0:0]	1 [2.0]	1 [1.0]		
Mesentery	(13)	(11)	(9)	(2)	
Accessory Spleen	(13)	1	2	1 [2.0]	
Necrosis		I	2	1 [1.0]	
Fat, Necrosis	13 [2.2]	10 [2.3]	8 [2.1]	1 [3.0]	
Oral Mucosa	(0)				
Inflammation, Chronic Active	(0)	(2)	(0)	(0)	
Pancreas	(49)	1 [4.0] (49)	(50)	(50)	
			(50)	(50) 5 [1 2]	
Atrophy	25 [1.4] 14	24 [1.3] 11	23 [1.2] 9	5 [1.2] 1	
Cyst				I	
Acinus, Hyperplasia, Focal	2 [1.5]	1 [2.0]	2 [2.5]	(50)	
Salivary Glands	(50)	(50)	(50)	(50)	
Atrophy	9 [1.1]	10 [1.1]	5 [1.0]	2 [1.0]	
Hyperplasia		4 10 01		1 [1.0]	
Inflammation, Chronic		1 [2.0]		4 [4 0]	
Mineralization		2 [1.0]		1 [1.0]	
Necrosis				1 [3.0]	
Vacuolization Cytoplasmic	()	1 [3.0]	(= -)	1 [2.0]	
Stomach, Forestomach	(50)	(50)	(50)	(50)	
Edema	2 [2.0]	1 [2.0]			
Inflammation, Chronic Active			1 [1.0]		
Ulcer	1 [4.0]	2 [2.5]			
Epithelium, Hyperplasia	7 [1.4]	8 [1.8]	2 [2.0]		
Epithelium, Hyperplasia, Atypical			1 [2.0]		
Stomach, Glandular	(48)	(47)	(48)	(50)	
Cyst		1			
Edema	1 [3.0]				
Erosion	1 [1.0]	1 [3.0]	1 [2.0]	3 [2.0]	
Ulcer	1 [4.0]		3 [2.3]	1 [2.0]	
Tongue	(1)	(3)	(0)	(0)	
Hyperplasia	1 [2.0]	2 [2.5]			

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

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010 Time Report Requested: 08:14:26					
Test Type: CHRONIC							
Route: GAVAGE		alpha/beta Th CAS Number: T			First Dose M/F: 06/09/03 / 06/09/03		
Species/Strain: RATS/F 344/N							
FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG			
Ulcer		1 [4.0]					
Tooth	(0)	(1)	(0)	(0)			
Degeneration		1 [2.0]					
CARDIOVASCULAR SYSTEM							
Heart	(50)	(50)	(50)	(50)			
Cardiomyopathy	40 [1.1]	30 [1.1]	30 [1.2]	8 [1.0]			
Hemorrhage				1 [2.0]			
Artery, Necrosis				1 [2.0]			
ENDOCRINE SYSTEM							
Adrenal Cortex	(47)	(49)	(46)	(50)			
Accessory Adrenal Cortical Nodule	7 [1.4]	12 [1.6]	13 [1.3]	9 [1.3]			
Degeneration, Fatty	23 [1.9]	18 [1.8]	19 [1.7]	9 [1.3]			
Hematopoietic Cell Proliferation	1 [1.0]	2 [1.5]	4 [1.0]				
Hemorrhage			1 [3.0]	3 [2.7]			
Hyperplasia, Focal	22 [1.5]	14 [1.7]	9 [1.6]	1 [1.0]			
Hypertrophy, Focal	7 [1.7]	6 [1.3]	2 [1.0]	1 [2.0]			
Inflammation, Acute				1 [2.0]			
Necrosis	2 [2.5]	1 [1.0]	6 [2.7]	4 [2.5]			
Adrenal Medulla	(48)	(50)	(48)	(50)			
Angiectasis				1 [2.0]			
Hyperplasia	7 [1.1]	5 [1.8]	3 [2.0]				
Infiltration Cellular, Lymphoid		1 [1.0]					
Islets, Pancreatic	(49)	(49)	(50)	(50)			
Hyperplasia	1 [1.0]		1 [4.0]				
Pituitary Gland	(50)	(49)	(49)	(48)			
Pigmentation	5 [1.6]	5 [1.4]	9 [1.4]				
Pars Distalis, Angiectasis	9 [2.2]	4 [2.0]	5 [2.2]	2 [1.0]			
Pars Distalis, Atrophy			2 [1.5]	12 [2.3]			
Pars Distalis, Cyst	18	20	17	8			
Pars Distalis, Dilatation			1 [1.0]				
Pars Distalis, Hyperplasia, Focal	5 [1.6]	13 [2.0]	6 [2.5]	1 [2.0]			

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010					
Test Type: CHRONIC		AVERAGE SEVERITY GRADES[b]					
Route: GAVAGE		CAS Number: T	HUJONEMIXAB		First Dose M/F: 06/09/03 / 06/09/03		
Species/Strain: RATS/F 344/N							
FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG			
Pars Intermedia, Angiectasis	2 [3.5]						
Pars Intermedia, Cyst	1	2	2	2			
Pars Intermedia, Hyperplasia	1 [1.0]						
Rathke's Cleft, Dilatation	7 [1.3]	1 [1.0]	13 [1.2]	26 [1.3]			
Thyroid Gland	(42)	(46)	(44)	(50)			
Degeneration, Cystic	1 [1.0]	2 [1.0]	5 [1.6]				
Ectopic Thymus	L - J	L - J		1 [2.0]			
Ultimobranchial Cyst	2 [1.0]	1 [1.0]	3 [1.3]	2 [2.0]			
C-cell, Hyperplasia	1 [1.0]	11 [2.4]	2 [1.5]				
Follicular Cell, Hyperplasia, Focal		1 [2.0]	1 [1.0]				
GENERAL BODY SYSTEM Tissue NOS	(1)	(1)	(0)	(0)			
Fat, Mediastinum, Necrosis	1 [2.0]						
GENITAL SYSTEM							
Clitoral Gland	(50)	(50)	(50)	(50)			
Cyst	2		1				
Hyperplasia	9 [2.2]	7 [1.9]	11 [2.7]				
Infiltration Cellular, Lymphocyte				1 [2.0]			
Inflammation, Chronic			1 [2.0]	1 [1.0]			
Ovary	(50)	(50)	(50)	(50)			
Cyst	3	6	2	1			
Bilateral, Cyst			1				
Uterus	(50)	(50)	(49)	(50)			
Cyst	1						
Hyperplasia, Cystic	22 [2.2]	17 [1.8]	19 [2.2]	9 [2.2]			
Cervix, Cyst			1				
Fat, Necrosis		1 [2.0]					
Vagina	(2)	(2)	(1)	(0)			

a - Number of animals examined microscopically at site and number of animals with lesion b-Average severity grade(1-minimal;2-mild;3-moderate;4-marked)

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/201					
Test Type: CHRONIC		alpha/beta Th	ujone mixture		Time Report Requested: 08:14:26		
Route: GAVAGE		CAS Number: T	•		First Dose M/F: 06/09/03 / 06/09/03		
Species/Strain: RATS/F 344/N							
FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG			
HEMATOPOIETIC SYSTEM							
Bone Marrow	(50)	(50)	(50)	(50)			
				(50)			
Hyperplasia	4 [3.3]	6 [3.5]	6 [3.5]	4 [4 0]			
Infiltration Cellular, Histiocyte	1 [4.0]	1 [1.0]	2 [1.0]	4 [1.8]			
Myelofibrosis		1 [3.0]		4 [0 0]			
Necrosis	/ <del>_</del> ``			1 [2.0]			
Lymph Node	(7)	(8)	(6)	(7)			
Deep Cervical, Hyperplasia		1 [3.0]					
Deep Cervical, Pigmentation		1 [3.0]					
Iliac, Hemorrhage				1 [2.0]			
Iliac, Hyperplasia, Lymphoid				1 [2.0]			
Iliac, Pigmentation				1 [2.0]			
Mediastinal, Hemorrhage		2 [3.0]	2 [2.0]	2 [4.0]			
Mediastinal, Hyperplasia, Lymphoid		6 [2.7]	3 [2.0]	2 [2.5]			
Mediastinal, Pigmentation		5 [2.2]	1 [2.0]	1 [2.0]			
Pancreatic, Hemorrhage		1 [2.0]	2 [3.0]	1 [3.0]			
Pancreatic, Hyperplasia, Lymphoid			1 [2.0]	4 [2.3]			
Pancreatic, Pigmentation		1 [3.0]	1 [2.0]	1 [2.0]			
Lymph Node, Mandibular	(1)	(4)	(1)	(4)			
Hyperplasia, Lymphoid	1 [1.0]	4 [1.5]		2 [2.5]			
Pigmentation		1 [2.0]					
Lymph Node, Mesenteric	(50)	(50)	(47)	(50)			
Atrophy	1 [2.0]	1 [3.0]					
Ectasia	1 [3.0]						
Hemorrhage	8 [1.6]	9 [1.7]	6 [1.7]	3 [1.7]			
Hyperplasia, Lymphoid	4 [2.5]	5 [1.6]	4 [1.5]	5 [1.6]			
Necrosis	. []	- []	1 [1.0]	1 [2.0]			
Pigmentation			1 [2.0]	. []			
Spleen	(48)	(49)	(48)	(50)			
Ectopic Spleen, Multiple	(10)	1	(10)	(00)			
Fibrosis	1 [3.0]	ı					
Hematopoietic Cell Proliferation	21 [1.4]	31 [1.6]	21 [2.0]				
Hemorrhage	1 [3.0]	01[1.0]	2, [2,0]				
Inflammation	1 [0:0]	1 [3.0]					
Necrosis		1 [4.0]	3 [2.3]	4 [1.8]			
a - Number of animals examined microsc				+[1.0]			

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010 Time Report Requested: 08:14:26			
Test Type: CHRONIC					
Route: GAVAGE		CAS Number: T	HUJONEMIXAB		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N		Lab: SRI			
FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Pigmentation	39 [2.7]	40 [2.6]	39 [2.9]	45 [2.4]	
Lymphoid Follicle, Atrophy	2 [1.5]	3 [1.7]	2 [2.5]	2 [2.0]	
Lymphoid Follicle, Hyperplasia	3 [1.3]	3 [1.0]	2 [1.0]	8 [2.0]	
Lymphoid Follicle, Hyperplasia, Focal	- L - J	- 1 - 1	1 [3.0]	- 1 - 1	
Thymus	(48)	(45)	(50)	(50)	
Cyst	(10)	2	(00)	(00)	
Ectopic Parathyroid Gland	1 [2.0]	£			
Necrosis	، اح.0		1 [1.0]	3 [1.7]	
INTEGUMENTARY SYSTEM					
Mammary Gland	(50)	(50)	(50)	(50)	
Fibrosis	1 [4.0]				
Hyperplasia	19 [2.1]	21 [2.3]	10 [1.6]		
Hyperplasia, Focal	3 [1.3]	1 [1.0]			
Malformation			1		
Duct, Ectasia	47 [2.1]	45 [2.4]	39 [1.9]		
Skin	(50)	(50)	(50)	(50)	
Cyst Epithelial Inclusion	2	(00)	1	(00)	
Hyperkeratosis	1 [4.0]	1 [2.0]	1 [2.0]		
Inflammation, Chronic	1 [1.0]	1 [2.0]	1 [2.0]		
Ulcer	1[1.0]	1 [4.0]			
	2 [2 0]				
Epidermis, Hyperplasia Subcutaneous Tissue, Fibrosis	2 [2.0] 1 [3.0]	1 [2.0]			
MUSCULOSKELETAL SYSTEM					
Bone	(50)	(50)	(50)	(50)	
Femur, Osteopetrosis			(00)	(30)	
Skeletal Muscle	1 [1.0] (0)	1 [2.0] (0)	(1)	(0)	
	(0)	(0)	(')		
NERVOUS SYSTEM					
Brain	(50)	(50)	(50)	(50)	

P18: INCIDENCE RAT	Date Report Requested: 08/18/2010 Time Report Requested: 08:14:26			
	CAS Number: ⊺	HUJONEMIXAB		First Dose M/F: 06/09/03 / 06/09/03
	Lab: SRI			
0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
9	10	6		
		1 [3.0]		
1 [2.0]		1 [2.0]		
		3 [2.7]		
1 [1.0]	3 [1.0]	5 [1.2]	19 [1.3]	
(50)	(50)	(50)	(50)	
			1 [4.0]	
	1 [2.0]			
46 [1.0]	43 [1.0]	36 [1.1]	8 [1.0]	
	1 [2.0]			
10 [1.5]	3 [1.3]	5 [1.0]	1 [1.0]	
	1 [1.0]	2 [1.5]		
			1 [3.0]	
23 [1.3]	25 [1.4]	17 [1.3]		
7 [1.3]	5 [2.0]	3 [1,3]		
	[]	•[]	.[]	
1 [1.0]			1	
5 [1.0]	4 [2.3]	2 [1.5]	·	
(44)	(47)	(41)	(49)	
	5 [2.2]	2 [3.0]	·	
	1 [2.0]	2 [2.5]		
1 [3.0]	1 [4.0]	-		
1 [2.0]				
	о МБ/КБ 9 1 [2.0] 1 [1.0] (50) 46 [1.0] 10 [1.5] 23 [1.3] (50) 7 [1.3] 11 [1.5] 1 1 [1.0] 5 [1.0]	AVERAGE SEVER alpha/beta Thi CAS Number: The O MG/KG           9         10           1 [2.0]         3 [1.0]           (50)         (50)           46 [1.0]         3 [1.0]           10         1 [2.0]           46 [1.0]         3 [1.3]           10         1 [2.0]           10         1 [2.0]           10         1 [2.0]           10         1 [2.0]           10         1 [2.0]           10         1 [2.0]           10         1 [2.0]           11         1 [1.0]           23         [1.3]         5 [2.0]           11         1 [1.0]         5 [1.0]         4 [2.3]           (44)         (47)         5 [2.2]           1         1 [2.0]         1 [2.0]           1         1 [2.0]         1 [2.0]           1         1 [2.0]         1 [2.0]           1         1 [2.0]         1 [2.0]	AVERAGE SEVERITY GRADES[b] alpha/beta Thujone mixture CAS Number: THUJONEMIXAB           9         10         6 1 [3.0] 1 [2.0]         25 MG/KG           9         10         6 1 [3.0]         1 [2.0] 3 [2.7]           1 [1.0]         3 [1.0]         5 [1.2]           (50)         (50)         (50)           46 [1.0]         1 [2.0] 1 [2.0]         36 [1.1] 1 [2.0]           10 [1.5]         3 [1.3] 3 [1.3]         5 [1.0]           23 [1.3]         25 [1.4]         17 [1.3] (50)           7 [1.3]         5 [2.0]         3 [1.3]           11 [1.5]         11 [1.8]         9 [1.4]           1         1         1           1         1         2 [3.0]           11 [1.0]         4 [2.3]         2 [1.5]           (44)         (47)         (41)           5 [1.0]         4 [2.3]         2 [3.0]           1 [2.0]         1 [2.0]         2 [2.5]           1 [3.0]         1 [4.0]         1 [2.0]           1 [2.0]         1 [2.0]         2 [2.5]	alpha/beta Thujone mixture CAS Number: THUJONEMIXAB           0 MG/KG         12.5 MG/KG         25 MG/KG         50 MG/KG           9         10         6         1[3.0]         1[2.0]         3[2.7]           1 [1.0]         3 [1.0]         5 [1.2]         19 [1.3]         19 [1.3]           (50)         (50)         (50)         (50)         1[4.0]           46 [1.0]         1 [2.0]         36 [1.1]         8 [1.0]           1 [2.0]         3 [1.3]         5 [1.0]         1 [1.0]           10 [1.5]         3 [1.3]         5 [1.0]         1 [1.0]           1 [2.0]         1 [1.0]         2 [1.5]         1 [3.0]           23 [1.3]         25 [1.4]         17 [1.3]         4 [1.0]           (50)         (50)         (50)         2 [2.5]           7 [1.3]         5 [2.0]         3 [1.3]         1 [1.0]           11 [1.5]         11 [1.8]         9 [1.4]         1 [1.0]           1 [1.0]         1         1         1         1           1 [1.0]         1 [2.0]         1 [2.0]         1         1           1 [1.0]         1         1         1         1           1 [2.0]         1 [2.0] <td< td=""></td<>

<b>TDMS No.</b> 99037 - 05	P18: INCIDENCE RAT	Date Report Requested: 08/18/2010 Time Report Requested: 08:14:26			
Test Type: CHRONIC					
Route: GAVAGE		CAS Number: T	HUJONEMIXAB		First Dose M/F: 06/09/03 / 06/09/03
Species/Strain: RATS/F 344/N			Lab: SRI		
FISCHER 344 RATS FEMALE	0 MG/KG	12.5 MG/KG	25 MG/KG	50 MG/KG	
Bilateral, Cataract			1 [2.0]		
Bilateral, Edema		1 [4.0]			
Bilateral, Retinal Detachment		1 [4.0]			
Retina, Degeneration		1 [3.0]	2 [2.5]	1 [2.0]	
Harderian Gland	(50)	(50)	(49)	(50)	
Hemorrhage			4 [2.0]		
Hyperplasia			1 [3.0]		
Inflammation, Chronic	9 [1.0]	11 [1.2]	9 [1.3]	6 [1.5]	
JRINARY SYSTEM					
Kidney	(44)	(45)	(40)	(50)	
Casts Protein	14 [1.4]	8 [1.3]	12 [1.3]		
Cyst	1	1			
Infarct	2 [2.5]	1 [4.0]	1 [4.0]		
Inflammation, Suppurative	1 [2.0]				
Inflammation, Chronic		1 [3.0]	3 [2.0]		
Mineralization	16 [1.1]	24 [1.0]	17 [1.2]	8 [1.0]	
Nephropathy	33 [1.2]	36 [1.0]	26 [1.0]	4 [1.0]	
Renal Tubule, Accumulation, Hyaline Droplet	2 [2.0]	5 [2.0]	4 [2.8]	-	
Renal Tubule, Necrosis			1 [1.0]		
Transitional Epithelium, Hyperplasia	2 [2.0]	1 [2.0]			
Urinary Bladder	(50)	(50)	(50)	(50)	
Inflammation, Chronic	. ,	. ,	· ·	1 [1.0]	

## \*\*\* END OF REPORT \*\*\*

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