Experiment Number: 20306 - 03 P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 08/27/2015

AVERAGE SEVERITY GRADES[b]

Test Type: 90-DAYPCN 66/67 comparison studyTime Report Requested: 09:31:49Route: GAVAGECAS Number: PCNCOMPARISNFirst Dose M/F: NA / 10/13/03

Route: GAVAGE

CAS Number: PCNCOMPARISN

First Dose M/F: NA / 10/13/03

Species/Strain: RATS/F 344/N

Lab: BAT

F1_Rev.1_PCN66

NTP Study Number: C20306

Lock Date: 10/07/2004

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include 001 0 NG/KG Include 002 1000 NG/KG 66 Include 003 10,000 NG/KG 66

Include 006 200,000 NG/KG 66

Include 004 50,000 NG/KG 66 Include 005 100,000 NG/KG 66

Study Gender: Female

TDMSE Version: 3.0.2.2_002

PWG Approval Date: NONE

Test Type: 90-DAY PCN 66/67 comparison study
Route: GAVAGE CAS Number: PCNCOMPARISN

Species/Strain: RATS/F 344/N

Experiment Number: 20306 - 03

Time Report Requested: 09:31:49
First Dose M/F: NA / 10/13/03

Lab: BAT

| FISCHER 344 RATS FEMALE | 0 NG/KG | 1000 NG/KG 66 | 10,000 NG/KG 66 | 50,000 NG/KG 66 | 100,000 NG/KG 66 | 200,000 NG/KG 66 |
|--|----------|---------------|-----------------|-----------------|------------------|------------------|
| Disposition Summary | | | | | | |
| Animals Initially In Study | 15 | 10 | 10 | 10 | 10 | 10 |
| Early Deaths Natural Death | | | | | | 2 |
| Survivors Terminal Sacrifice | 45 | 10 | 10 | 40 | 10 | 0 |
| Animals Sacrifice Animals Examined Microscopically | 15 15 | 10 | 10 | 10 10 | 10 | 8 10 |
| ALIMENTARY SYSTEM | | | | | | |
| Esophagus | (15) | (0) | (0) | (0) | (0) | (10) |
| Intestine Large, Cecum | (15) | (0) | (0) | (0) | (0) | (9) |
| Intestine Large, Colon | (15) | (0) | (0) | (1) | (0) | (10) |
| Serosa, Cyst | | | | 1 [2.0] | | |
| Intestine Large, Rectum | (15) | (0) | (0) | (0) | (0) | (10) |
| Intestine Small, Duodenum | (15) | (10) | (10) | (10) | (10) | (9) |
| Intestine Small, Ileum | (15) | (0) | (0) | (0) | (0) | (9) |
| Intestine Small, Jejunum | (15) | (0) | (0) | (0) | (0) | (9) |
| Liver | (15) | (10) | (10) | (10) | (10) | (9) |
| Clear Cell Focus | | | | | 1 | |
| Fatty Change | | | | 1 [1.0] | 7 [1.1] | 9 [1.8] |
| Hematopoietic Cell Proliferation | | | | | | 1 [1.0] |
| Hepatocyte, Multinucleate | | | | | 10 [1.1] | 9 [1.9] |
| Hepatodiaphragmatic Nodule | 1 | 2 | 3 | 1 | 1 | 2 |
| Inflammation, Suppurative | | | | | | 3 [1.0] |
| Inflammation, Granulomatous | | | | | 8 [1.1] | |
| Inflammation, Chronic Active | 7 [1.0] | 6 [1.0] | 8 [1.0] | 9 [1.1] | 9 [1.1] | 8 [1.0] |
| Necrosis, Focal | | | | | 1 [1.0] | |
| Pigmentation | | | | 1 [1.0] | | 4 [1.0] |
| Toxic Hepatopathy | | | | | 8 [1.0] | 9 [2.8] |
| Bile Duct, Cyst | | | | | | 1 [3.0] |
| Bile Duct, Hyperplasia | | | | | | 6 [1.2] |
| Hepatocyte, Degeneration | | | | | | 4 [1.0] |
| Hepatocyte, Glandular Structures | | | | | | 5 [2.0] |
| Hepatocyte, Hyperplasia | | | | | | 6 [1.5] |

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

Test Type: 90-DAY PCN 66/67 comparison study Route: GAVAGE **CAS Number: PCNCOMPARISN**

Experiment Number: 20306 - 03

Species/Strain: RATS/F 344/N

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

First Dose M/F: NA / 10/13/03 Lab: BAT

Time Report Requested: 09:31:49

| Hepatocyte, Hypertrophy | 4 [1.0] | | |
|--|---------|----------|---------|
| Oval Cell, Hyperplasia Portal Vein, Fibrosis, Focal Mesentery (0) (0) (1) Fat, Necrosis 1[1.0] Pancreas (15) (10) (10) Infiltration Cellular, Mononuclear Cell 7[1.0] 5[1.0] 4[1.0] Acinus, Atrophy, Focal Acinus, Vacuolization Cytoplasmic Salivary Glands (15) (0) (0) Stomach, Forestomach (15) (10) (10) Infiltration Cellular, Mononuclear Cell 1[1.0] Epithelium, Hyperplasia, Squamous Stomach, Glandular (15) (0) (0) Infiltration Cellular, Mononuclear Cell 4[1.0] Glands, Ectasia Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9[1.0] 8[1.0] 7[1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | | 10 [2.1] | 9 [3.8] |
| Mesentery (0) (0) (1) Fat, Necrosis 1 [1.0] 1 [1.0] Pancreas (15) (10) (10) Infiltration Cellular, Mononuclear Cell 7 [1.0] 5 [1.0] 4 [1.0] Acinus, Atrophy, Focal Acinus, Vacuolization Cytoplasmic Salivary Glands (15) (0) (0) Salivary Glands (15) (10) (10) Infiltration Cellular, Mononuclear Cell 1 [1.0] 1 [1.0] Epithelium, Hyperplasia, Squamous Stomach, Glandular (15) (0) (0) Infiltration Cellular, Mononuclear Cell 4 [1.0] (0) (0) Glands, Ectasia (15) (0) (0) Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus (15) (10) (10) Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus <td></td> <td></td> <td>8 [1.1]</td> | | | 8 [1.1] |
| Fat, Necrosis | | | 2 [2.0] |
| Fat, Necrosis Pancreas (15) (10) Infiltration Cellular, Mononuclear Cell Acinus, Atrophy, Focal Acinus, Vacuolization Cytoplasmic Salivary Glands Salivary Glands Stomach, Forestomach Infiltration Cellular, Mononuclear Cell Epithelium, Hyperplasia, Squamous Stomach, Glandular Infiltration Cellular, Mononuclear Cell Epithelium, Hyperplasia, Squamous Stomach, Glandular Infiltration Cellular, Mononuclear Cell Glands, Ectasia Tongue Infiltration Cellular, Mononuclear Cell Infiltration Cellul | (0) | (0) | (0) |
| Infiltration Cellular, Mononuclear Cell | | | |
| Acinus, Atrophy, Focal Acinus, Vacuolization Cytoplasmic Salivary Glands (15) (0) (0) Stomach, Forestomach (15) (10) (10) Infiltration Cellular, Mononuclear Cell 1 [1.0] Epithelium, Hyperplasia, Squamous Stomach, Glandular (15) (0) (0) Infiltration Cellular, Mononuclear Cell 4 [1.0] Glands, Ectasia Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | (10) | (10) | (9) |
| Acinus, Atrophy, Focal Acinus, Vacuolization Cytoplasmic Salivary Glands (15) (0) (0) Stomach, Forestomach (15) (10) (10) Infiltration Cellular, Mononuclear Cell 1 [1.0] Epithelium, Hyperplasia, Squamous Stomach, Glandular (15) (0) (0) Infiltration Cellular, Mononuclear Cell 4 [1.0] Glands, Ectasia Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | 6 [1.0] | 3 [1.0] | 6 [1.0] |
| Salivary Glands (15) (0) (0) Stomach, Forestomach (15) (10) (10) Infiltration Cellular, Mononuclear Cell | | 1 [1.0] | |
| Salivary Glands (15) (0) (0) Stomach, Forestomach (15) (10) (10) Infiltration Cellular, Mononuclear Cell | | | 1 [1.0] |
| Stomach, Forestomach Infiltration Cellular, Mononuclear Cell Epithelium, Hyperplasia, Squamous Stomach, Glandular Infiltration Cellular, Mononuclear Cell Glands, Ectasia Tongue CARDIOVASCULAR SYSTEM Blood Vessel Aorta, Thrombus Pulmonary Artery, Thrombus Heart Cardiomyopathy Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus Ventricle, Thrombus Ventricle, Thrombus (15) (10) (10) (10) (10) (10) (10) (10) (10 | (0) | (0) | (10) |
| Infiltration Cellular, Mononuclear Cell Epithelium, Hyperplasia, Squamous Stomach, Glandular (15) (0) (0) Infiltration Cellular, Mononuclear Cell Glands, Ectasia Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | (10) | (10) | (9) |
| Epithelium, Hyperplasia, Squamous Stomach, Glandular (15) (0) (0) Infiltration Cellular, Mononuclear Cell 4 [1.0] Glands, Ectasia Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | . , | ` , | . , |
| Stomach, Glandular (15) (0) (0) Infiltration Cellular, Mononuclear Cell 4 [1.0] (0) (0) Glands, Ectasia (15) (0) (0) Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | | | 1 [1.0] |
| Infiltration Cellular, Mononuclear Cell Glands, Ectasia Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) Cardiomyopathy 9 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | (0) | (0) | (9) |
| Tongue (15) (0) (0) CARDIOVASCULAR SYSTEM Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | · , | , , | 2 [1.0] |
| CARDIOVASCULAR SYSTEM Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | | | 1 [1.0] |
| Blood Vessel (15) (0) (0) Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | (0) | (0) | (10) |
| Aorta, Thrombus Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | | | |
| Pulmonary Artery, Thrombus Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | (0) | (0) | (10) |
| Heart (15) (10) (10) Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | | | 3 [2.7] |
| Cardiomyopathy 9 [1.0] 8 [1.0] 7 [1.0] Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | | | 1 [3.0] |
| Myocardium, Inflammation Valve, Thrombus Ventricle, Thrombus | (10) | (10) | (10) |
| Valve, Thrombus Ventricle, Thrombus | 7 [1.0] | 4 [1.0] | 4 [1.0] |
| Ventricle, Thrombus | | | 3 [2.7] |
| | | | 1 [3.0] |
| ENDOCDINE OVOTEM | | | 2 [2.5] |
| ENDOCRINE SYSTEM | | | |
| Adrenal Cortex (15) (10) (10) | (10) | (10) | (9) |
| Infiltration Cellular, Mixed Cell 1 [1.0] | | 4 10 63 | |
| Inflammation, Histiocytic | | 1 [2.0] | |
| Zona Fasciculata, Vacuolization Cytoplasmic 1 [1.0] a - Number of animals examined microscopically at site and number of animals with lesion | | | |

Test Type: 90-DAYPCN 66/67 comparison studyRoute: GAVAGECAS Number: PCNCOMPARISN

Experiment Number: 20306 - 03

Species/Strain: RATS/F 344/N

Time Report Requested: 09:31:49
First Dose M/F: NA / 10/13/03

Lab: BAT

| FISCHER 344 RATS FEMALE | 0 NG/KG | 1000 NG/KG 66 | 10,000 NG/KG 66 | 50,000 NG/KG 66 | 100,000 NG/KG 66 | 200,000 NG/KG 66 |
|------------------------------------|----------|---------------|-----------------|-----------------|------------------|------------------|
| Adrenal Medulla | (15) | (10) | (10) | (10) | (10) | (9) |
| Parathyroid Gland | (13) | (0) | (0) | (0) | (0) | (9) |
| Pituitary Gland | (15) | (10) | (10) | (10) | (10) | (10) |
| Cyst | | | | | 1 [1.0] | |
| Thyroid Gland | (15) | (10) | (10) | (10) | (10) | (9) |
| GENERAL BODY SYSTEM | | | | | | |
| None | | | | | | |
| GENITAL SYSTEM | | | | | | |
| Clitoral Gland | (15) | (0) | (0) | (0) | (0) | (10) |
| Ovary | (15) | (10) | (10) | (10) | (10) | (9) |
| Atrophy | | | | | | 9 [1.2] |
| Periovarian Tissue, Cyst | 1 [1.0] | | | | | |
| Uterus | (15) | (10) | (10) | (10) | (10) | (9) |
| Atrophy | | | | | | 9 [1.9] |
| Vagina | (15) | (10) | (10) | (10) | (10) | (9) |
| HEMATOPOIETIC SYSTEM | | | | | | |
| Bone Marrow | (15) | (0) | (0) | (0) | (0) | (10) |
| Lymph Node, Mesenteric | (15) | (10) | (10) | (10) | (10) | (9) |
| Atrophy | 1 [1.0] | | | 1 [1.0] | | 4 [1.3] |
| Hyperplasia, Lymphoid | | | | | 1 [2.0] | |
| Infiltration Cellular, Histiocyte | 6 [1.2] | 6 [1.0] | 6 [1.0] | 5 [1.2] | 9 [1.4] | 3 [1.3] |
| Infiltration Cellular, Plasma Cell | | | | | | 1 [2.0] |
| Spleen | (15) | (10) | (10) | (10) | (10) | (9) |
| Hematopoietic Cell Proliferation | | | | 1 [1.0] | | |
| Pigmentation, Hemosiderin | 15 [1.1] | 10 [1.0] | 10 [1.0] | 10 [1.2] | 10 [1.0] | 8 [1.0] |
| Thymus | (15) | (10) | (10) | (10) | (10) | (10) |
| Atrophy | | | | 1 [1.0] | 2 [1.0] | 10 [3.8] |

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)

PCN 66/67 comparison study CAS Number: PCNCOMPARISN

Time Report Requested: 09:31:49
First Dose M/F: NA / 10/13/03

Lab: BAT

| FISCHER 344 RATS FEMALE | 0 NG/KG | 1000 NG/KG 66 | 10,000 NG/KG 66 | 50,000 NG/KG 66 | 100,000 NG/KG 66 | 200,000 NG/KG 66 |
|--|---------|---------------|-----------------|-----------------|------------------|--------------------|
| INTEGUMENTARY SYSTEM | | | | | | |
| Mammary Gland | (15) | (10) | (10) | (10) | (10) | (10) |
| Skin | (15) | (10) | (10) | (10) | (10) | (10) |
| MUSCULOSKELETAL SYSTEM | | | | | | |
| Bone | (15) | (0) | (0) | (0) | (0) | (10) |
| NERVOUS SYSTEM | | | | | | |
| Brain | (15) | (0) | (0) | (0) | (0) | (10) |
| RESPIRATORY SYSTEM | | | | | | |
| Lung | (15) | (10) | (10) | (10) | (10) | (10) |
| Inflammation, Chronic Active | , , | 1 [1.0] | 1 [1.0] | 1 [1.0] | 1 [1.0] | , , |
| Metaplasia, Squamous | | | | | 1 [1.0] | |
| Alveolar Epithelium, Hyperplasia | 1 [2.0] | 2 [1.0] | 1 [1.0] | 1 [1.0] | | |
| Alveolus, Infiltration Cellular, Histiocyte | 3 [1.0] | 2 [1.0] | 2 [1.0] | 3 [1.0] | 6 [1.0] | 6 [1.2] |
| Interstitium, Inflammation, Granulomatous | 1 [1.0] | (2) | (5) | (2) | 1 [1.0] | (12) |
| Nose | (15) | (0) | (0) | (0) | (0) | (10) |
| Trachea | (15) | (0) | (0) | (0) | (0) | (10) |
| SPECIAL SENSES SYSTEM | | | | | | |
| Eye | (15) | (0) | (0) | (0) | (0) | (10) |
| Harderian Gland | (15) | (10) | (10) | (10) | (10) | (10) |
| Infiltration Cellular, Mononuclear Cell Duct, Metaplasia, Squamous | | 1 [1.0] | | 2 [1.0] | 1 [1.0] | 8 [1.9] 1 [2.0] |

URINARY SYSTEM

Experiment Number: 20306 - 03

Species/Strain: RATS/F 344/N

Test Type: 90-DAY

Route: GAVAGE

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

Experiment Number: 20306 - 03

P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH Date Report Requested: 08/27/2015 AVERAGE SEVERITY GRADES[b]

PCN 66/67 comparison study

CAS Number: PCNCOMPARISN

Time Report Requested: 09:31:49
First Dose M/F: NA / 10/13/03

Lab: BAT

Test Type: 90-DAY **Route:** GAVAGE

Species/Strain: RATS/F 344/N

| FISCHER 344 RATS FEMALE | 0 NG/KG | 1000 NG/KG 66 | 10,000 NG/KG 66 | 50,000 NG/KG 66 | 100,000 NG/KG 66 | 200,000 NG/KG 66 |
|-----------------------------------|----------|---------------|-----------------|-----------------|------------------|------------------|
| Kidney | (15) | (10) | (10) | (10) | (10) | (9) |
| Mineralization | 15 [1.0] | 7 [1.0] | 10 [1.0] | 7 [1.0] | 5 [1.0] | 7 [1.0] |
| Nephropathy | 2 [1.0] | 1 [1.0] | 1 [1.0] | 3 [1.0] | 4 [1.0] | 4 [1.0] |
| Urinary Bladder | (15) | (0) | (0) | (0) | (0) | (9) |
| Infiltration Cellular, Lymphocyte | 1 [1.0] | . , | , , | , , | , , | . , |

^{***} END OF REPORT ***