

Experiment Number: 20006 - 03

**P18: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE (a) WITH
AVERAGE SEVERITY GRADES[b]**

Date Report Requested: 04/16/2013

Test Type: CHRONIC

Indole-3-carbinol

Time Report Requested: 09:53:55

Route: GAVAGE

CAS Number: 700-06-1

First Dose M/F: 03/14/07 / 03/15/07

Species/Strain: RATS/HSD

Lab: BAT

F1_HSD

NTP Study Number: C20006B
Lock Date: 06/21/2010
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.1.1_001
PWG Approval Date: NONE

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Lab: BAT

| Harlan Sprague Dawley RATS MALE | 0 mg/kg | 75 mg/kg | 150 mg/kg | 300 mg/kg |
|---------------------------------|---------|----------|-----------|-----------|
|---------------------------------|---------|----------|-----------|-----------|

Disposition Summary

| | | | | |
|---|-----------|-----------|-----------|-----------|
| Animals Initially In Study | 50 | 50 | 50 | 50 |
| Early Deaths | | | | |
| Dosing Accident | | | | 1 |
| Moribund Sacrifice | 14 | 23 | 15 | 20 |
| Natural Death | 16 | 14 | 18 | 17 |
| Survivors | | | | |
| Terminal Sacrifice | 20 | 13 | 17 | 12 |
| Animals Examined Microscopically | 50 | 50 | 50 | 50 |

ALIMENTARY SYSTEM

| | | | | |
|----------------------------|---------|---------|----------|----------|
| Esophagus | (50) | (50) | (50) | (50) |
| Inflammation | | 1 [2.0] | | |
| Epithelium, Hyperplasia | | 1 [1.0] | | |
| Intestine Large, Cecum | (50) | (50) | (50) | (50) |
| Hyperplasia, Lymphoid | | 1 [3.0] | | |
| Necrosis | 1 [3.0] | 1 [4.0] | | |
| Intestine Large, Colon | (50) | (50) | (50) | (50) |
| Erosion | 1 [3.0] | | | |
| Intestine Large, Rectum | (50) | (50) | (50) | (50) |
| Fibrosis | | | | 1 [1.0] |
| Intestine Small, Duodenum | (43) | (48) | (47) | (48) |
| Lymphatic, Ectasia | | | 15 [1.5] | 14 [1.4] |
| Intestine Small, Ileum | (35) | (43) | (42) | (38) |
| Intestine Small, Jejunum | (40) | (39) | (40) | (42) |
| Lymphatic, Ectasia | | 2 [1.0] | 27 [1.7] | 41 [2.0] |
| Liver | (50) | (50) | (50) | (50) |
| Angiectasis | 1 [3.0] | | | |
| Basophilic Focus | 3 | | 3 | 1 |
| Cholangiofibrosis | | 1 [2.0] | 3 [2.7] | 1 [2.0] |
| Clear Cell Focus | 14 | 13 | 18 | 9 |
| Degeneration, Cystic | | | 1 [3.0] | |
| Eosinophilic Focus | 10 | 12 | 10 | 6 |
| Hepatodiaphragmatic Nodule | 2 | | 1 | 1 |

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|--|----------|----------|-----------|-----------|
| Mixed Cell Focus | 4 | 2 | 1 | 2 |
| Necrosis | 3 [2.3] | 3 [1.3] | 5 [2.0] | 7 [2.3] |
| Artery, Inflammation, Chronic Active | | 1 [1.0] | | |
| Bile Duct, Cyst | | | 1 [2.0] | 5 [2.4] |
| Bile Duct, Cyst, Multiple | | | 1 [2.0] | |
| Bile Duct, Fibrosis | 2 [2.0] | | 1 [3.0] | 1 [1.0] |
| Bile Duct, Hyperplasia | 7 [1.1] | 4 [1.0] | 3 [1.7] | 3 [1.0] |
| Oval Cell, Hyperplasia | | | | 1 [1.0] |
| Periportal, Inflammation, Chronic Active | 1 [2.0] | | | |
| Mesentery | (2) | (2) | (1) | (0) |
| Artery, Inflammation, Chronic Active | 1 [4.0] | | | |
| Artery, Mineralization | | 1 [2.0] | | |
| Fat, Necrosis | 1 [3.0] | | | |
| Oral Mucosa | (50) | (50) | (50) | (50) |
| Foreign Body | | 1 | | |
| Hyperplasia, Squamous | | 1 [2.0] | 2 [2.5] | 1 [3.0] |
| Sebaceous Gland, Ectopic Tissue | | | | 1 |
| Pancreas | (50) | (50) | (50) | (49) |
| Angiectasis | | | | 1 [1.0] |
| Thrombosis | | 1 [3.0] | | |
| Acinus, Atrophy | 1 [1.0] | 1 [1.0] | | 2 [1.0] |
| Acinus, Hyperplasia | 16 [1.4] | 10 [1.3] | 14 [1.8] | 10 [2.2] |
| Artery, Inflammation, Chronic Active | 22 [2.2] | 32 [1.8] | 27 [1.9] | 21 [2.0] |
| Salivary Glands | (50) | (50) | (49) | (50) |
| Metaplasia | | 1 [2.0] | | 2 [1.0] |
| Stomach, Forestomach | (50) | (50) | (50) | (50) |
| Erosion | | | 1 [1.0] | |
| Hyperplasia | 19 [1.7] | 19 [1.7] | 19 [2.3] | 22 [1.8] |
| Inflammation | 2 [2.0] | | 4 [1.3] | 1 [1.0] |
| Necrosis | 1 [4.0] | | | |
| Ulcer | 2 [1.5] | 1 [3.0] | 1 [3.0] | 1 [1.0] |
| Stomach, Glandular | (50) | (50) | (50) | (50) |
| Epithelium, Amyloid Deposition | | | 1 [3.0] | |
| Epithelium, Hyperplasia | 2 [1.0] | 5 [2.0] | 7 [2.0] | 3 [2.0] |
| Epithelium, Inflammation | | 1 [3.0] | | |
| Epithelium, Inflammation, Chronic Active | 3 [1.0] | 4 [2.0] | 2 [1.5] | 1 [2.0] |

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

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Lab: BAT

| Harlan Sprague Dawley RATS MALE | 0 mg/kg | 75 mg/kg | 150 mg/kg | 300 mg/kg |
|--|---------|----------|-----------|-----------|
| Epithelium, Mineralization | 7 [2.4] | 12 [2.5] | 6 [2.3] | 10 [1.8] |
| Epithelium, Necrosis | 1 [1.0] | | | |
| Epithelium, Ulcer | | 1 [1.0] | | |
| Epithelium, Muscularis, Hyperplasia, Focal | | 1 [2.0] | | |
| Tongue | (0) | (0) | (0) | (1) |
| Tooth | (1) | (0) | (1) | (0) |
| Malformation | | | 1 [3.0] | |
| Necrosis | 1 [3.0] | | | |

CARDIOVASCULAR SYSTEM

| | | | | |
|------------------------------|----------|----------|----------|----------|
| Blood Vessel | (50) | (50) | (50) | (50) |
| Dilatation | 1 [3.0] | | | |
| Inflammation, Chronic Active | 30 [2.0] | 38 [2.1] | 30 [2.3] | 29 [1.9] |
| Mineralization | | 2 [3.0] | 1 [3.0] | 1 [3.0] |
| Thrombosis | | | 1 | |
| Heart | (50) | (50) | (50) | (50) |
| Cardiomyopathy | 47 [2.4] | 48 [2.6] | 49 [2.5] | 48 [2.4] |
| Mineralization | 1 [2.0] | | | 1 [3.0] |
| Atrium, Thrombosis | 1 [4.0] | 3 [3.3] | 3 [3.3] | 3 [3.3] |
| Epicardium, Inflammation | 1 [2.0] | 1 [3.0] | | |
| Pericardium, Inflammation | | | 1 [3.0] | |

ENDOCRINE SYSTEM

| | | | | |
|----------------------------------|----------|----------|----------|----------|
| Adrenal Cortex | (50) | (49) | (50) | (50) |
| Atrophy | | | | 1 [3.0] |
| Degeneration, Cystic | 4 [2.0] | 3 [2.3] | 5 [1.8] | 4 [2.0] |
| Degeneration, Fatty | 8 [2.0] | 13 [1.8] | 5 [1.6] | 16 [1.8] |
| Hematopoietic Cell Proliferation | | | 1 [2.0] | |
| Hemorrhage | | | 1 [3.0] | |
| Hyperplasia | 14 [2.3] | 19 [2.1] | 19 [2.1] | 6 [2.0] |
| Necrosis | 1 [1.0] | | | 2 [1.5] |
| Thrombosis | | 1 [2.0] | | |
| Adrenal Medulla | (50) | (49) | (50) | (50) |

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|---------------------------------|----------|----------|-----------|-----------|
| Angiectasis | 1 [2.0] | | | |
| Degeneration, Fatty | | 1 [1.0] | | |
| Hyperplasia | 18 [2.2] | 22 [2.2] | 20 [1.9] | 19 [1.5] |
| Islets, Pancreatic | (50) | (50) | (50) | (50) |
| Hyperplasia | 3 [2.0] | 6 [2.0] | 1 [2.0] | 3 [2.0] |
| Parathyroid Gland | (43) | (46) | (50) | (47) |
| Hyperplasia | 3 [3.0] | 10 [2.2] | 13 [2.0] | 8 [2.5] |
| Pituitary Gland | (50) | (49) | (50) | (47) |
| Pars Distalis, Hyperplasia | 17 [2.0] | 18 [2.6] | 19 [2.0] | 12 [1.8] |
| Thyroid Gland | (50) | (46) | (48) | (47) |
| Thrombosis | 1 [2.0] | | | |
| C-cell, Hyperplasia | 6 [2.2] | 4 [2.0] | 4 [2.8] | 5 [3.2] |
| C-cell, Hypertrophy | | | | 1 [2.0] |
| Follicular Cell, Hyperplasia | | 1 [4.0] | | |
| Follicular Cell, Hypertrophy | 21 [1.8] | 34 [1.9] | 33 [2.1] | 36 [2.6] |

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

| | | | | |
|------------------------------|---------|---------|---------|---------|
| Epididymis | (50) | (50) | (50) | (50) |
| Atrophy | 1 [3.0] | | | |
| Preputial Gland | (50) | (50) | (49) | (50) |
| Cyst | 7 [2.6] | | 3 [3.3] | 5 [2.8] |
| Fibrosis | 1 [1.0] | | | |
| Inflammation | 2 [3.0] | | | 1 [3.0] |
| Prostate | (50) | (50) | (50) | (50) |
| Atrophy | 1 [2.0] | 1 [2.0] | | |
| Fibrosis | 1 [2.0] | 3 [1.7] | 2 [2.0] | 1 [2.0] |
| Hyperplasia | 3 [2.0] | 4 [2.3] | 7 [2.7] | 3 [1.7] |
| Inflammation, Acute | 1 [1.0] | 6 [1.5] | | 6 [2.2] |
| Inflammation, Chronic Active | | | | 1 [1.0] |
| Necrosis | 1 [3.0] | | | |

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|--------------------------------------|----------|----------|-----------|-----------|
| Seminal Vesicle | (49) | (50) | (50) | (50) |
| Hypoplasia | | | 1 [2.0] | |
| Inflammation, Acute | | | | 2 [4.0] |
| Testes | (49) | (50) | (50) | (50) |
| Atrophy | 30 [2.1] | 37 [2.0] | 35 [1.7] | 33 [1.6] |
| Pigmentation, Hemosiderin | | | 1 [1.0] | |
| Artery, Inflammation, Chronic Active | 28 [2.3] | 34 [2.1] | 33 [2.3] | 33 [2.2] |
| Interstitial Cell, Hyperplasia | 1 [1.0] | | 1 [1.0] | 2 [2.5] |

HEMATOPOIETIC SYSTEM

| | | | | |
|--|---------|---------|---------|---------|
| Bone Marrow | (50) | (50) | (50) | (50) |
| Hyperplasia | 1 [3.0] | 2 [2.0] | 4 [2.3] | 3 [2.0] |
| Lymph Node | (4) | (8) | (8) | (6) |
| Angiectasis | | | | 1 [2.0] |
| Bronchial, Hemorrhage | | 1 [3.0] | 1 [3.0] | |
| Deep Cervical, Hemorrhage | | 1 [3.0] | | |
| Deep Cervical, Hyperplasia, Plasma Cell | | 1 [3.0] | | |
| Deep Cervical, Inflammation | | 1 [4.0] | | |
| Iliac, Infiltration Cellular, Histiocyte | | | 1 [2.0] | |
| Lumbar, Hemorrhage | | | 2 [3.0] | |
| Mediastinal, Ectasia | | 1 [3.0] | 1 [3.0] | |
| Mediastinal, Hemorrhage | 1 [3.0] | 2 [2.5] | 3 [3.0] | 1 [2.0] |
| Mediastinal, Hyperplasia, Lymphoid | | 1 [4.0] | | |
| Mediastinal, Infiltration Cellular, Lipocyte | | | | 1 [3.0] |
| Mediastinal, Infiltration Cellular, Histiocyte | | 1 [3.0] | | |
| Mediastinal, Pigmentation, Hemosiderin | | | | 1 [3.0] |
| Pancreatic, Hemorrhage | | 1 [2.0] | | 1 [3.0] |
| Renal, Ectasia | 2 [3.5] | | | |
| Renal, Hemorrhage | 1 [3.0] | 2 [3.0] | | |
| Renal, Pigmentation, Hemosiderin | | | | 1 [3.0] |
| Lymph Node, Mandibular | (50) | (50) | (49) | (50) |
| Ectasia | | 1 [3.0] | 1 [3.0] | 1 [3.0] |
| Hemorrhage | | | 1 [3.0] | |
| Hyperplasia, Plasma Cell | 1 [2.0] | | | |

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|----------------------------------|----------|----------|-----------|-----------|
| Lymph Node, Mesenteric | (50) | (50) | (50) | (50) |
| Ectasia | | 1 [3.0] | | |
| Hemorrhage | | 1 [1.0] | | |
| Hyperplasia, Lymphoid | 1 [3.0] | | | 1 [2.0] |
| Lymphatic, Ectasia | | | 1 [3.0] | 5 [1.4] |
| Spleen | (50) | (50) | (50) | (50) |
| Atrophy | | | | 1 [3.0] |
| Hematopoietic Cell Proliferation | 28 [2.1] | 33 [2.2] | 28 [2.0] | 29 [2.0] |
| Inflammation | 1 [2.0] | | | |
| Necrosis | | | 1 [3.0] | |
| Thymus | (46) | (49) | (49) | (47) |
| Atrophy | 41 [2.2] | 41 [2.6] | 42 [2.4] | 41 [2.5] |
| Hemorrhage | | | 1 [3.0] | |
| Epithelial Cell, Hyperplasia | 1 [2.0] | | | |
| INTEGUMENTARY SYSTEM | | | | |
| Mammary Gland | (50) | (50) | (50) | (50) |
| Fibrosis | | | 1 [2.0] | |
| Inflammation | | | | 1 [3.0] |
| Skin | (50) | (50) | (50) | (50) |
| Cyst Epithelial Inclusion | 5 | 3 | 2 | 2 |
| Inflammation | 3 [2.3] | 2 [3.0] | | 2 [3.5] |
| Necrosis | | 2 [3.5] | | |
| Epidermis, Ulcer | 1 [3.0] | | | |
| Sebaceous Gland, Hyperplasia | | | | 1 [3.0] |
| MUSCULOSKELETAL SYSTEM | | | | |
| Bone | (50) | (50) | (50) | (50) |
| Fibrous Osteodystrophy | 12 [3.0] | 19 [3.0] | 13 [3.1] | 8 [3.1] |
| Maxilla, Fracture | | | 1 [2.0] | |

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|--|----------|----------|-----------|-----------|
| NERVOUS SYSTEM | | | | |
| Brain | (50) | (50) | (50) | (50) |
| Cyst Epithelial Inclusion | | | | 1 |
| Gliosis | | 2 [1.0] | | |
| Necrosis | | | | 2 [2.5] |
| Spinal Cord | (0) | (2) | (1) | (0) |
| Degeneration | | 2 [2.5] | 1 [2.0] | |
| RESPIRATORY SYSTEM | | | | |
| Lung | (49) | (50) | (50) | (50) |
| Edema | | | 1 [3.0] | 1 [2.0] |
| Fibrosis | | | | 1 [2.0] |
| Foreign Body | | 1 | 1 | |
| Hemorrhage | | | 1 [1.0] | 1 [1.0] |
| Hemorrhage, Multifocal | 3 [1.3] | 3 [1.0] | 7 [1.6] | 7 [1.9] |
| Inflammation, Granulomatous | | | 1 [2.0] | |
| Inflammation, Chronic | 17 [1.6] | 21 [1.9] | 24 [1.8] | 23 [1.8] |
| Mineralization | | | | 1 [4.0] |
| Necrosis | 1 [3.0] | | | |
| Alveolar Epithelium, Hyperplasia | 1 [4.0] | | 1 [1.0] | 1 [1.0] |
| Alveolus, Infiltration Cellular, Histiocyte | 19 [1.2] | 22 [1.1] | 19 [1.4] | 13 [1.2] |
| Alveolus, Mineralization | 1 [3.0] | 2 [2.5] | 1 [3.0] | 1 [2.0] |
| Nose | (50) | (50) | (50) | (50) |
| Foreign Body | 4 | 12 | 11 | 10 |
| Fungus | 1 | | | |
| Inflammation | 1 [2.0] | | | |
| Inflammation, Chronic Active | 11 [1.5] | 15 [1.3] | 16 [1.7] | 15 [1.5] |
| Thrombosis | | 1 [1.0] | | |
| Respiratory Epithelium, Hyperplasia | 2 [2.0] | 2 [1.0] | 4 [1.8] | 7 [1.7] |
| Respiratory Epithelium, Metaplasia, Squamous | | | 2 [1.0] | |
| Trachea | (50) | (50) | (50) | (50) |
| Inflammation | 1 [2.0] | 1 [2.0] | 1 [2.0] | |

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SPECIAL SENSES SYSTEM

| | | | | |
|---------------------------------------|----------|----------|----------|----------|
| Ear | (0) | (0) | (1) | (0) |
| External Ear, Hyperplasia, Squamous | | | 1 [3.0] | |
| Eye | (50) | (50) | (49) | (49) |
| Cataract | | | | 1 [2.0] |
| Anterior Chamber, Inflammation, Acute | 2 [1.0] | 1 [3.0] | 4 [2.3] | 3 [2.0] |
| Cornea, Inflammation, Acute | 20 [2.1] | 25 [2.1] | 17 [2.3] | 21 [1.9] |
| Retina, Fibrosis | | | | 1 [3.0] |
| Harderian Gland | (50) | (50) | (49) | (50) |
| Angiectasis | | | | 1 [2.0] |
| Pigmentation, Porphyrin | 1 [3.0] | | | |
| Lacrimal Gland | (1) | (2) | (4) | (0) |
| Degeneration | 1 [2.0] | 2 [3.0] | 4 [2.5] | |

URINARY SYSTEM

| | | | | |
|--------------------------|----------|----------|----------|----------|
| Kidney | (50) | (50) | (50) | (50) |
| Cyst | | | | 1 [2.0] |
| Metaplasia, Osseous | | 1 [2.0] | | |
| Nephropathy | 50 [3.2] | 49 [3.3] | 49 [3.4] | 50 [3.4] |
| Renal Tubule, Dilatation | | | 1 [3.0] | |
| Urinary Bladder | (50) | (50) | (50) | (50) |
| Hemorrhage | | | | 1 [2.0] |
| Inflammation | | | | 1 [1.0] |

*** END OF MALE ***

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|-----------------------------------|---------|----------|-----------|-----------|
|-----------------------------------|---------|----------|-----------|-----------|

Disposition Summary

| | | | | |
|---|-----------|-----------|-----------|-----------|
| Animals Initially In Study | 50 | 50 | 50 | 50 |
| Early Deaths | | | | |
| Dosing Accident | | 1 | | 1 |
| Moribund Sacrifice | 24 | 22 | 23 | 11 |
| Natural Death | 5 | 8 | 7 | 8 |
| Survivors | | | | |
| Moribund Sacrifice | | 1 | 1 | |
| Terminal Sacrifice | 21 | 18 | 19 | 30 |
| Animals Examined Microscopically | 50 | 50 | 50 | 50 |

ALIMENTARY SYSTEM

| | | | | |
|----------------------------|---------|---------|----------|----------|
| Esophagus | (50) | (50) | (50) | (50) |
| Inflammation | | 2 [2.0] | | |
| Perforation | | | | 1 |
| Intestine Large, Cecum | (50) | (50) | (50) | (48) |
| Intestine Large, Colon | (50) | (50) | (50) | (48) |
| Intestine Large, Rectum | (50) | (50) | (50) | (50) |
| Metaplasia | | | 1 [2.0] | |
| Intestine Small, Duodenum | (48) | (47) | (48) | (47) |
| Lymphatic, Ectasia | | | 16 [1.2] | 38 [1.5] |
| Intestine Small, Ileum | (47) | (47) | (48) | (47) |
| Intestine Small, Jejunum | (47) | (46) | (48) | (48) |
| Lymphatic, Ectasia | | | 30 [1.7] | 47 [2.5] |
| Liver | (50) | (50) | (50) | (48) |
| Angiectasis | 1 [1.0] | | 2 [2.0] | 3 [1.7] |
| Basophilic Focus | 14 | 6 | 11 | 14 |
| Cholangiofibrosis | | 1 [1.0] | | |
| Clear Cell Focus | 6 | 7 | 4 | 18 |
| Eosinophilic Focus | | 4 | 5 | 6 |
| Hepatodiaphragmatic Nodule | | | 3 | 2 |
| Inflammation, Chronic | | | | 1 [2.0] |
| Mixed Cell Focus | 5 | 1 | 5 | 4 |
| Necrosis | 1 [2.0] | 2 [3.5] | | |

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Test Type: CHRONIC

Indole-3-carbinol

Time Report Requested: 09:53:55

Route: GAVAGE

CAS Number: 700-06-1

First Dose M/F: 03/14/07 / 03/15/07

Species/Strain: RATS/HSD

Lab: BAT

| Harlan Sprague Dawley RATS FEMALE | 0 mg/kg | 75 mg/kg | 150 mg/kg | 300 mg/kg |
|--------------------------------------|---------|----------|-----------|-----------|
| Pigmentation | 1 [3.0] | | | |
| Thrombosis | | 1 [2.0] | | |
| Bile Duct, Cyst | 2 [2.5] | 1 [2.0] | 4 [2.5] | 4 [2.5] |
| Bile Duct, Cyst, Multiple | 2 [2.5] | 1 [2.0] | 2 [2.0] | 2 [2.5] |
| Bile Duct, Hyperplasia | 2 [1.5] | | | |
| Centrilobular, Degeneration | | 1 [3.0] | | |
| Mesentery | (0) | (2) | (2) | (1) |
| Artery, Inflammation, Chronic Active | | 1 [3.0] | | |
| Oral Mucosa | (50) | (50) | (50) | (50) |
| Hyperplasia, Squamous | | | 1 [1.0] | 2 [2.0] |
| Pancreas | (50) | (49) | (49) | (48) |
| Acinus, Hyperplasia | 1 [2.0] | 3 [1.3] | | 1 [1.0] |
| Artery, Inflammation, Chronic Active | 1 [3.0] | 4 [1.5] | 3 [2.7] | 6 [2.2] |
| Salivary Glands | (50) | (49) | (48) | (50) |
| Inflammation | 1 [2.0] | | | |
| Stomach, Forestomach | (50) | (50) | (50) | (49) |
| Hyperplasia | 2 [2.0] | 5 [2.4] | 7 [2.1] | 3 [2.3] |
| Inflammation | 1 [1.0] | | | 1 [3.0] |
| Pigmentation, Melanin | | 1 [2.0] | | |
| Ulcer | 1 [2.0] | | | |
| Stomach, Glandular | (50) | (49) | (50) | (49) |
| Erosion | | | 1 [3.0] | |
| Ulcer | 1 [2.0] | | | |
| Epithelium, Hyperplasia | 1 [2.0] | | 1 [2.0] | |
| Epithelium, Mineralization | | | 1 [1.0] | |
| Tongue | (1) | (1) | (0) | (1) |
| Cyst | | | | 1 [3.0] |
| Erosion | 1 [3.0] | | | |
| Inflammation | | 1 [3.0] | | |
| Tooth | (0) | (1) | (0) | (0) |

CARDIOVASCULAR SYSTEM

| | | | | |
|---------------------|------|------|---------|------|
| Blood Vessel | (50) | (50) | (50) | (50) |
| Degeneration, Focal | | | 1 [2.0] | |

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Indole-3-carbinol

Time Report Requested: 09:53:55

Route: GAVAGE

CAS Number: 700-06-1

First Dose M/F: 03/14/07 / 03/15/07

Species/Strain: RATS/HSD

Lab: BAT

| Harlan Sprague Dawley RATS FEMALE | 0 mg/kg | 75 mg/kg | 150 mg/kg | 300 mg/kg |
|-----------------------------------|----------|----------|-----------|-----------|
| Inflammation, Chronic Active | 1 [3.0] | 3 [1.3] | 4 [2.5] | 7 [1.9] |
| Thrombosis | | | 1 [3.0] | |
| Heart | (50) | (50) | (50) | (49) |
| Cardiomyopathy | 24 [1.2] | 24 [1.7] | 24 [1.8] | 24 [1.4] |
| Atrium, Thrombosis | | 1 [4.0] | | |
| Epicardium, Inflammation | 1 [2.0] | 3 [2.3] | | 1 [3.0] |
| Pericardium, Inflammation | | | 2 [2.5] | |

ENDOCRINE SYSTEM

| | | | | |
|---------------------------------|----------|----------|----------|----------|
| Adrenal Cortex | (50) | (50) | (50) | (48) |
| Degeneration, Cystic | 16 [2.3] | 12 [2.1] | 11 [2.4] | 15 [2.3] |
| Degeneration, Fatty | 5 [2.4] | 3 [2.0] | | 1 [2.0] |
| Hyperplasia | 18 [2.3] | 11 [2.0] | 18 [1.9] | 15 [1.9] |
| Hypertrophy | 1 [1.0] | | | |
| Inflammation | | 1 [1.0] | | 1 [1.0] |
| Necrosis | | | 1 [2.0] | 1 [3.0] |
| Thrombosis | | 1 [2.0] | 1 [3.0] | |
| Bilateral, Degeneration, Cystic | 1 [4.0] | | | |
| Adrenal Medulla | (50) | (50) | (50) | (48) |
| Hyperplasia | 15 [1.1] | 13 [1.8] | 11 [1.9] | 12 [1.7] |
| Islets, Pancreatic | (50) | (50) | (50) | (50) |
| Parathyroid Gland | (47) | (49) | (46) | (49) |
| Hyperplasia | | 2 [1.0] | | |
| Pituitary Gland | (50) | (50) | (50) | (49) |
| Pars Distalis, Hyperplasia | 19 [2.5] | 14 [2.1] | 18 [3.3] | 24 [2.0] |
| Thyroid Gland | (49) | (49) | (48) | (47) |
| C-cell, Hyperplasia | 7 [2.0] | 5 [2.0] | 6 [2.3] | 5 [2.6] |
| Follicular Cell, Hyperplasia | 1 [2.0] | | 1 [2.0] | 1 [3.0] |
| Follicular Cell, Hypertrophy | 27 [1.6] | 23 [1.7] | 24 [1.7] | 30 [2.0] |

GENERAL BODY SYSTEM

None

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Indole-3-carbinol

Time Report Requested: 09:53:55

Route: GAVAGE

CAS Number: 700-06-1

First Dose M/F: 03/14/07 / 03/15/07

Species/Strain: RATS/HSD

Lab: BAT

| Harlan Sprague Dawley RATS FEMALE | 0 mg/kg | 75 mg/kg | 150 mg/kg | 300 mg/kg |
|-----------------------------------|----------|----------|-----------|-----------|
| GENITAL SYSTEM | | | | |
| Clitoral Gland | (50) | (50) | (50) | (50) |
| Cyst | 5 [2.8] | 2 [2.5] | 3 [3.0] | 4 [3.0] |
| Inflammation | 1 [1.0] | | | 2 [3.0] |
| Ovary | (50) | (50) | (50) | (49) |
| Angiectasis | | | | 1 [3.0] |
| Atrophy | 40 [2.0] | 23 [2.0] | 37 [2.0] | 30 [1.9] |
| Cyst | 17 [2.0] | 13 [2.4] | 16 [2.5] | 16 [2.3] |
| Inflammation, Acute | | | 1 [3.0] | 1 [2.0] |
| Inflammation, Chronic | | | | 1 [2.0] |
| Inflammation, Chronic Active | 1 [2.0] | 1 [3.0] | | 1 [1.0] |
| Necrosis, Fibrinoid | | | 1 [4.0] | |
| Uterus | (50) | (50) | (50) | (50) |
| Cyst | | | 2 [2.5] | |
| Dilatation | 9 [2.6] | 9 [3.4] | 7 [3.6] | 5 [2.8] |
| Inflammation, Histiocytic, Focal | 1 [1.0] | | | |
| Inflammation, Acute | 5 [1.2] | 12 [2.1] | 6 [1.8] | 9 [1.8] |
| Thrombosis | | | 1 [2.0] | 1 [3.0] |
| Endometrium, Hyperplasia, Cystic | 29 [1.8] | 28 [1.6] | 29 [2.0] | 21 [1.9] |
| Endometrium, Metaplasia, Squamous | 12 [1.9] | 18 [2.2] | 20 [2.1] | 11 [1.8] |
| Vagina | (2) | (1) | (0) | (2) |

HEMATOPOIETIC SYSTEM

| | | | | |
|--|----------|----------|----------|----------|
| Bone Marrow | (50) | (50) | (50) | (50) |
| Atrophy | | 1 [3.0] | 1 [2.0] | |
| Hyperplasia | 21 [2.4] | 20 [2.0] | 23 [2.2] | 17 [1.9] |
| Lymph Node | (7) | (6) | (4) | (3) |
| Axillary, Hyperplasia, Lymphoid | | | | 1 [3.0] |
| Iliac, Hyperplasia, Lymphoid | | 1 [2.0] | | |
| Iliac, Infiltration Cellular, Histiocyte | | | | 1 [3.0] |
| Inguinal, Hemorrhage | | 1 [3.0] | | |
| Inguinal, Hyperplasia, Lymphoid | 1 [3.0] | | 1 [2.0] | |

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Route: GAVAGE

CAS Number: 700-06-1

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Species/Strain: RATS/HSD

Lab: BAT

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|--|----------|----------|-----------|-----------|
| Lumbar, Hemorrhage | 2 [3.0] | 1 [3.0] | | |
| Lumbar, Hyperplasia, Lymphoid | 1 [3.0] | 1 [3.0] | | |
| Lumbar, Infiltration Cellular, Histiocyte | | 1 [2.0] | 1 [3.0] | |
| Mediastinal, Ectasia | | | 1 [3.0] | |
| Mediastinal, Hemorrhage | 2 [3.5] | | 1 [3.0] | |
| Mediastinal, Infiltration Cellular, Histiocyte | 1 [2.0] | | | |
| Lymph Node, Mandibular | (50) | (49) | (49) | (50) |
| Lymph Node, Mesenteric | (50) | (50) | (50) | (48) |
| Hemorrhage | | | | 1 [3.0] |
| Pigmentation, Hemosiderin | 1 [2.0] | | | |
| Lymphatic, Ectasia | | | 1 [1.0] | 15 [1.7] |
| Spleen | (50) | (50) | (50) | (48) |
| Hematopoietic Cell Proliferation | 36 [2.5] | 32 [2.4] | 40 [2.3] | 33 [2.2] |
| Thymus | (47) | (50) | (49) | (50) |
| Atrophy | 38 [2.2] | 31 [2.3] | 34 [2.2] | 38 [2.3] |
| Hemorrhage | | | | 1 [2.0] |
| Inflammation | | 1 [3.0] | 1 [2.0] | |
| Epithelial Cell, Hyperplasia | 1 [3.0] | 4 [3.3] | 3 [2.0] | |

INTEGUMENTARY SYSTEM

| | | | | |
|---------------------------|---------|---------|---------|---------|
| Mammary Gland | (50) | (50) | (50) | (50) |
| Galactocele | 1 | | | |
| Hyperplasia | 8 [1.3] | 3 [1.0] | 7 [1.4] | 7 [1.4] |
| Inflammation | 1 [4.0] | 1 [3.0] | | |
| Inflammation, Chronic | 1 [3.0] | | | |
| Duct, Dilatation | 1 [3.0] | | | |
| Skin | (50) | (50) | (50) | (50) |
| Cyst Epithelial Inclusion | | 1 | | 1 [1.0] |
| Fibrosis | | | | 1 [1.0] |

MUSCULOSKELETAL SYSTEM

| | | | | |
|------------------------|------|---------|---------|------|
| Bone | (50) | (50) | (50) | (50) |
| Fibrous Osteodystrophy | | 1 [3.0] | 1 [3.0] | |

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|-----------------------------------|---------|----------|----------------|-----------|
| Skeletal Muscle Degeneration | (1) | (0) | (1) 1 [1.0] | (1) |

NERVOUS SYSTEM

| | | | | |
|------------------------------------|---------|---------|------|---------|
| Brain | (50) | (50) | (50) | (50) |
| Gliosis | | 1 [2.0] | | |
| Hemorrhage | | | | 1 [2.0] |
| Inflammation | | 1 [2.0] | | |
| Necrosis | 1 [3.0] | | | 1 [2.0] |
| Meninges, Pigmentation, Lipofuscin | | 1 [1.0] | | |
| Peripheral Nerve | (0) | (2) | (0) | (0) |
| Spinal Cord | (0) | (1) | (0) | (0) |
| Hemorrhage | | 1 [2.0] | | |
| Necrosis | | 1 [2.0] | | |

RESPIRATORY SYSTEM

| | | | | |
|---|----------|----------|----------|----------|
| Lung | (50) | (50) | (50) | (49) |
| Atelectasis | | 1 | | |
| Foreign Body | | 2 | | |
| Inflammation, Granulomatous | 1 [1.0] | | | |
| Inflammation, Chronic | 34 [2.3] | 30 [2.2] | 38 [2.3] | 35 [2.3] |
| Alveolar Epithelium, Hyperplasia | | | | 1 [1.0] |
| Alveolar Epithelium, Metaplasia, Squamous | | | | 1 [1.0] |
| Alveolus, Infiltration Cellular, Histiocyte | 13 [1.5] | 16 [1.5] | 11 [1.5] | 9 [1.1] |
| Bronchiole, Hyperplasia | | 1 [3.0] | 1 [1.0] | |
| Mediastinum, Inflammation | | 1 [3.0] | | |
| Pleura, Inflammation, Chronic Active | | 1 [2.0] | | |
| Nose | (49) | (50) | (49) | (50) |
| Angiectasis | | | 1 [2.0] | |
| Foreign Body | 3 | 2 | 3 | 3 |
| Inflammation, Chronic Active | 5 [1.4] | 4 [1.8] | 5 [1.6] | 6 [1.3] |
| Glands, Olfactory Epithelium, Hyperplasia | | 1 [1.0] | | |
| Olfactory Epithelium, Atrophy | | | 2 [1.0] | 5 [1.6] |

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|--|---------|----------|-----------|-----------|
| Olfactory Epithelium, Degeneration | 1 [1.0] | | 1 [1.0] | |
| Respiratory Epithelium, Hyperplasia | | | 3 [2.0] | 2 [1.0] |
| Respiratory Epithelium, Metaplasia, Squamous | | | 1 [1.0] | 1 [1.0] |
| Trachea Epithelium, Necrosis | (50) | (50) | (50) | (50) |
| | | 1 [2.0] | | |

SPECIAL SENSES SYSTEM

| | | | | |
|--------------------|---------|---------|---------|------|
| Eye | (50) | (50) | (50) | (50) |
| Cataract | 1 [2.0] | | | |
| Inflammation | | 1 [3.0] | 1 [3.0] | |
| Harderian Gland | (50) | (50) | (50) | (50) |
| Hyperplasia, Focal | | | 1 [1.0] | |
| Inflammation | | 1 [2.0] | | |

URINARY SYSTEM

| | | | | |
|----------------------|----------|----------|----------|----------|
| Kidney | (50) | (50) | (50) | (48) |
| Nephropathy | 45 [1.7] | 41 [2.0] | 42 [2.2] | 43 [2.0] |
| Pelvis, Inflammation | | | | 1 [3.0] |
| Urinary Bladder | (49) | (50) | (50) | (50) |
| Hyperplasia | | | 1 [3.0] | |

*** END OF REPORT ***

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