

Experiment Number: 20105 - 56

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

Date Report Requested: 01/02/2018

Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

Final 2 - Data Changes through 12-15-17 CDMA Core Rats Only

NTP Study Number:

C20105B

Lock Date:

12/29/2015

Cage Range:

ALL

Date Range:

ALL

Reasons For Removal:

25022 ACCK

25021 TSAC

25020 NATD

25019 MSAC

Removal Date Range:

ALL

Treatment Groups:

Include ALL

Study Gender:

Both

TDMSE Version:

3.0.2.3_002

PWG Approval Date:

NONE

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Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|---------------------------------|------------------|------------------|------------------|------------------|
|---------------------------------|------------------|------------------|------------------|------------------|

Disposition Summary

| | | | | |
|---|------------|------------|------------|------------|
| Animals Initially In Study | 105 | 105 | 105 | 105 |
| Early Deaths | | | | |
| Accidentally Killed | 1 | | | |
| Moribund Sacrifice | 44 | 24 | 13 | 6 |
| Natural Death | 20 | 23 | 21 | 41 |
| Survivors | | | | |
| Natural Death | | | 1 | |
| Terminal Sacrifice | 25 | 43 | 55 | 43 |
| Animals Examined Microscopically | 90 | 90 | 90 | 90 |

ALIMENTARY SYSTEM

| | | | | |
|--------------------------------------|----------|---------|---------|---------|
| Esophagus | (90) | (90) | (90) | (90) |
| Dilation | 2 [4.0] | | | |
| Hyperplasia | 1 [2.0] | | | |
| Intestine Large, Cecum | (75) | (76) | (74) | (68) |
| Edema | 11 [2.0] | | | |
| Erosion | 10 [2.5] | 1 [3.0] | 1 [4.0] | 1 [2.0] |
| Hemorrhage | | 1 [2.0] | | |
| Inflammation, Acute | 10 [2.8] | 1 [2.0] | | 1 [2.0] |
| Inflammation, Chronic Active | 1 [3.0] | 1 [1.0] | | |
| Necrosis | | | 1 [4.0] | |
| Ulcer | 6 [2.3] | | | |
| Artery, Inflammation, Chronic Active | 20 [2.1] | 8 [1.9] | 7 [1.9] | 2 [2.5] |
| Artery, Mineral | 1 [2.0] | | | |
| Artery, Thrombus | | | 1 [4.0] | |
| Epithelium, Regeneration | 14 [2.4] | 1 [2.0] | | 1 [2.0] |
| Intestine Large, Colon | (81) | (83) | (82) | (76) |
| Cyst | | 1 | | |
| Erosion | 1 [1.0] | 1 [2.0] | | |
| Inflammation, Acute | 1 [1.0] | | | |
| Ulcer | 1 [1.0] | | | |
| Artery, Inflammation, Chronic Active | 12 [1.8] | 4 [1.8] | 5 [1.6] | 1 [2.0] |
| Artery, Mineral | 2 [2.0] | | | |

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|--------------------------------------|------------------|------------------|------------------|------------------|
| Epithelium, Regeneration | 5 [2.6] | | | |
| Intestine Large, Rectum | (83) | (81) | (80) | (76) |
| Edema | 1 [4.0] | | | |
| Erosion | 1 [1.0] | | | |
| Hyperplasia, Lymphocyte | 1 [4.0] | | | |
| Inflammation, Acute | 2 [2.5] | | | |
| Inflammation, Chronic Active | | 1 [1.0] | | |
| Artery, Inflammation, Chronic Active | 4 [1.8] | 1 [3.0] | 1 [2.0] | 1 [3.0] |
| Epithelium, Regeneration | 3 [2.3] | | | |
| Intestine Small, Duodenum | (81) | (84) | (83) | (66) |
| Dilation | | 1 [2.0] | | |
| Ectopic Tissue | | 1 | | |
| Erosion | 1 [2.0] | | | |
| Ulcer | 1 [3.0] | 1 [4.0] | | |
| Artery, Inflammation, Chronic Active | | | 3 [2.3] | |
| Intestine Small, Ileum | (78) | (76) | (77) | (63) |
| Congestion | | 1 [2.0] | | |
| Hemorrhage | | | 1 [2.0] | |
| Inflammation, Acute | | 1 [1.0] | | |
| Artery, Inflammation, Chronic Active | 2 [2.5] | | 1 [3.0] | |
| Epithelium, Regeneration | 1 [2.0] | | | |
| Intestine Small, Jejunum | (73) | (73) | (75) | (62) |
| Artery, Inflammation, Chronic Active | | | 1 [2.0] | |
| Liver | (90) | (90) | (89) | (88) |
| Angiectasis | 1 [2.0] | 1 [3.0] | | 1 [1.0] |
| Basophilic Focus | 1 | | 2 | |
| Clear Cell Focus | 8 | 4 | 5 | 5 |
| Eosinophilic Focus | 12 | 5 | 11 | 4 |
| Extramedullary Hematopoiesis | 5 [1.2] | 4 [1.3] | 3 [1.0] | 1 [1.0] |
| Hepatodiaphragmatic Nodule | 1 | 1 | | 1 |
| Infiltration Cellular, Mixed Cell | 3 [1.0] | 1 [1.0] | 3 [1.0] | 2 [1.0] |
| Mixed Cell Focus | 32 | 51 | 47 | 37 |
| Artery, Inflammation, Chronic Active | 2 [3.5] | 1 [2.0] | | |
| Artery, Mineral | 1 [1.0] | 1 [1.0] | | |
| Bile Duct, Cyst | 3 | 5 | 2 | 1 |
| Bile Duct, Fibrosis | | | | 1 [1.0] |

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Time Report Requested: 13:31:21

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CAS Number: CELLPRADCDMA

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Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|--|------------------|------------------|------------------|------------------|
| Bile Duct, Hyperplasia | 41 [1.2] | 33 [1.0] | 26 [1.2] | 14 [1.1] |
| Hepatocyte, Degeneration | 1 [3.0] | | 1 [3.0] | 1 [2.0] |
| Hepatocyte, Necrosis | 5 [1.8] | 6 [2.2] | 6 [1.8] | 6 [1.5] |
| Hepatocyte, Vacuolation, Cytoplasmic | 6 [1.5] | 6 [2.3] | 7 [2.3] | 7 [1.7] |
| Kupffer Cell, Pigment | 1 [2.0] | | | |
| Periductal, Cholangiofibrosis | 2 [3.0] | 2 [1.5] | 2 [2.5] | |
| Mesentery | (39) | (19) | (17) | (6) |
| Fibrosis | | 1 [2.0] | | |
| Hemorrhage | 1 [3.0] | | | 1 [4.0] |
| Inflammation, Chronic | 2 [1.5] | | | |
| Necrosis | 2 [3.0] | 1 [2.0] | 1 [4.0] | 1 [2.0] |
| Neovascularization | 1 [3.0] | 2 [2.5] | 3 [2.0] | |
| Artery, Inflammation, Chronic Active | 32 [2.3] | 16 [2.3] | 13 [2.0] | 3 [3.0] |
| Artery, Mineral | 21 [2.1] | 5 [2.0] | 2 [2.5] | |
| Vein, Degeneration | 1 [1.0] | | | |
| Vein, Inflammation, Chronic Active | 1 [1.0] | 2 [1.5] | 1 [1.0] | |
| Oral Mucosa | (0) | (1) | (1) | (0) |
| Ulcer | | 1 [3.0] | | |
| Pancreas | (90) | (88) | (87) | (78) |
| Cyst | 1 | | | 1 |
| Inflammation, Chronic Active | | 1 [4.0] | | |
| Thrombus | 1 [4.0] | 1 [3.0] | | |
| Acinus, Atrophy | 13 [1.2] | 9 [1.4] | 10 [1.3] | 8 [1.1] |
| Acinus, Hyperplasia | 63 [2.4] | 55 [2.7] | 49 [2.9] | 28 [2.6] |
| Artery, Inflammation, Chronic Active | 48 [2.3] | 28 [2.0] | 23 [2.0] | 5 [2.2] |
| Artery, Mineral | 11 [1.8] | 2 [2.5] | | |
| Duct, Crystals | | | 1 [3.0] | |
| Duct, Inflammation, Acute | | | 1 [1.0] | |
| Salivary Glands | (90) | (90) | (90) | (86) |
| Artery, Inflammation, Chronic Active | 11 [2.5] | 6 [2.2] | 2 [2.5] | 1 [2.0] |
| Artery, Mineral | 2 [2.5] | 1 [2.0] | 1 [2.0] | |
| Duct, Parotid Gland, Dilation | 5 [2.0] | 1 [1.0] | 1 [2.0] | |
| Duct, Parotid Gland, Inflammation, Acute | 1 [2.0] | 1 [3.0] | | |
| Parotid Gland, Atrophy | 18 [2.0] | 15 [2.8] | 8 [3.0] | 3 [3.0] |
| Parotid Gland, Inflammation, Acute | 2 [2.0] | 4 [1.0] | 2 [1.5] | |
| Parotid Gland, Vacuolation, Cytoplasmic | 1 [2.0] | 2 [1.0] | | |

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|--------------------------------------|------------------|------------------|------------------|------------------|
| Sublingual Gland, Atrophy | | | 1 [1.0] | 1 [2.0] |
| Sublingual Gland, Mineral | | | | 1 [1.0] |
| Submandibular Gland, Atrophy | | 2 [3.0] | | |
| Stomach, Forestomach | (90) | (90) | (89) | (90) |
| Cyst | | 1 | | |
| Edema | 5 [2.0] | 5 [1.6] | 1 [3.0] | 1 [2.0] |
| Erosion | | 1 [1.0] | | |
| Inflammation, Acute | 1 [1.0] | 1 [1.0] | 1 [1.0] | |
| Inflammation, Chronic | | | | 1 [2.0] |
| Inflammation, Chronic Active | 7 [1.9] | 4 [2.0] | 10 [1.8] | 1 [2.0] |
| Mineral | 1 [3.0] | 1 [1.0] | | |
| Ulcer | 6 [2.0] | 8 [1.9] | 4 [2.3] | 1 [3.0] |
| Artery, Inflammation, Chronic Active | | 1 [3.0] | | |
| Epithelium, Hyperplasia | 11 [3.2] | 17 [2.4] | 11 [3.1] | 6 [2.3] |
| Epithelium, Hyperplasia, Atypical | 1 [2.0] | | | |
| Epithelium, Hyperplasia, Basal Cell | | | 1 [1.0] | 1 [3.0] |
| Stomach, Glandular | (86) | (86) | (85) | (78) |
| Erosion | 3 [1.3] | 2 [1.0] | 3 [1.3] | |
| Inflammation, Acute | 1 [1.0] | | | |
| Inflammation, Chronic Active | 1 [1.0] | | | |
| Mineral | 31 [2.5] | 9 [3.1] | 6 [2.7] | 1 [2.0] |
| Necrosis | | | 3 [1.3] | |
| Artery, Inflammation, Chronic Active | 3 [2.3] | | | |
| Artery, Mineral | | | 1 [2.0] | |
| Epithelium, Hyperplasia, Focal | | | | 1 [2.0] |

CARDIOVASCULAR SYSTEM

| | | | | |
|------------------------------|----------|---------|---------|---------|
| Aorta | (90) | (90) | (90) | (90) |
| Dilation | | 5 [1.8] | 1 [2.0] | |
| Mineral | 30 [2.1] | 8 [2.8] | 6 [2.2] | 2 [1.5] |
| Blood Vessel | (1) | (2) | (1) | (0) |
| Inflammation, Chronic Active | | | 1 [2.0] | |
| Mineral | 1 [4.0] | | | |
| Pulmonary Artery, Mineral | | 1 [3.0] | | |

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|---|------------------|------------------|------------------|------------------|
| Pulmonary Artery, Necrosis | | 1 [1.0] | | |
| Heart | (90) | (90) | (90) | (90) |
| Cardiomyopathy | 79 [1.9] | 84 [1.9] | 83 [1.8] | 85 [1.3] |
| Congestion | 1 [3.0] | | | |
| Hemorrhage | | | | 1 [2.0] |
| Inflammation, Suppurative | | | 1 [2.0] | |
| Thrombus | 1 [2.0] | | 3 [3.3] | |
| Artery, Degeneration | | 1 [2.0] | | |
| Artery, Inflammation, Chronic Active | | | 2 [1.5] | |
| Artery, Mineral | 20 [2.5] | 7 [2.1] | 2 [2.0] | 1 [2.0] |
| Artery, Pericardium, Inflammation, Chronic Active | | | | 1 [3.0] |
| Artery, Pericardium, Pigment | | 1 [1.0] | | |
| Atrium, Dilation | 3 [2.0] | 1 [4.0] | | 4 [3.5] |
| Atrium, Thrombus | 1 [3.0] | 5 [3.6] | | 1 [3.0] |
| Atrium, Myocardium, Hypertrophy | 1 [3.0] | 1 [3.0] | | 1 [2.0] |
| Atrium, Myocardium, Necrosis | | 1 [2.0] | | |
| Atrium Left, Mineral | | | 1 [1.0] | |
| Endocardium, Hyperplasia, Schwann Cell | | | | 3 [2.0] |
| Myocardium, Mineral | 9 [1.4] | 2 [1.0] | 1 [1.0] | |
| Myocardium, Necrosis | 1 [2.0] | 1 [3.0] | | 1 [2.0] |
| Pericardium, Hemorrhage | | | 1 [4.0] | |
| Valve, Inflammation, Chronic Active | 1 [2.0] | | | |
| Ventricle Right, Cardiomyopathy | 54 [1.1] | 45 [1.2] | 62 [1.3] | 74 [1.7] |
| Ventricle Right, Dilation | | | 1 [3.0] | |

ENDOCRINE SYSTEM

| | | | | |
|-----------------------------------|---------|---------|---------|---------|
| Adrenal Cortex | (90) | (90) | (90) | (89) |
| Accessory Adrenal Cortical Nodule | 6 | 4 | 7 | 7 |
| Angiectasis | | 1 [2.0] | | |
| Atrophy | | 1 [4.0] | | 1 [3.0] |
| Degeneration | 3 [1.0] | 1 [2.0] | 1 [1.0] | 2 [2.5] |
| Degeneration, Cystic | | 3 [1.3] | | 1 [2.0] |
| Extramedullary Hematopoiesis | | | 1 [1.0] | |

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|---------------------------------|------------------|------------------|------------------|------------------|
| Hyperplasia | 47 [1.7] | 42 [1.9] | 45 [1.9] | 44 [1.9] |
| Hypertrophy | 35 [1.5] | 42 [1.4] | 55 [1.3] | 44 [1.4] |
| Necrosis | 5 [2.4] | 5 [2.2] | 1 [2.0] | 1 [1.0] |
| Pigment | | | | 1 [1.0] |
| Thrombus | 2 [3.0] | 2 [2.0] | 1 [3.0] | |
| Vacuolation, Cytoplasmic | 20 [1.5] | 18 [1.7] | 21 [1.5] | 12 [1.4] |
| Adrenal Medulla | (88) | (90) | (90) | (90) |
| Hyperplasia | 42 [2.0] | 34 [1.8] | 32 [2.0] | 21 [2.3] |
| Thrombus | 1 [4.0] | | | |
| Islets, Pancreatic | (90) | (88) | (87) | (79) |
| Hyperplasia | 12 [1.5] | 15 [2.7] | 13 [2.0] | 12 [1.9] |
| Parathyroid Gland | (83) | (83) | (83) | (82) |
| Fibrosis | | | 3 [1.3] | |
| Hyperplasia | 51 [2.5] | 35 [2.5] | 32 [2.0] | 17 [1.8] |
| Hyperplasia, Focal | | 1 [2.0] | | |
| Pituitary Gland | (89) | (90) | (90) | (90) |
| Craniopharyngeal Duct, Cyst | 1 | | | 1 |
| Pars Distalis, Angiectasis | | | | 1 [2.0] |
| Pars Distalis, Atrophy | | | | 1 [3.0] |
| Pars Distalis, Cyst | 5 | 15 | 7 | 6 |
| Pars Distalis, Hyperplasia | 32 [2.4] | 32 [2.4] | 34 [2.5] | 27 [2.2] |
| Pars Distalis, Necrosis | | 1 [2.0] | | |
| Pars Intermedia, Angiectasis | 1 [4.0] | 1 [3.0] | | |
| Pars Intermedia, Cyst | 6 | 1 | 5 | 7 |
| Pars Intermedia, Hyperplasia | 1 [3.0] | 3 [2.0] | | 2 [2.0] |
| Pars Nervosa, Cyst | | 1 | | |
| Thyroid Gland | (89) | (87) | (86) | (85) |
| C-cell, Hyperplasia | 16 [1.8] | 17 [1.8] | 17 [2.1] | 22 [2.6] |
| Follicle, Cyst | | 2 | | 1 |
| Follicle, Hyperplasia, Cystic | 1 [1.0] | | | |

GENERAL BODY SYSTEM

| | | | | |
|----------------------------|---------|-----|-----|-----|
| Tissue NOS | (3) | (1) | (3) | (3) |
| Abdominal, Fat, Hemorrhage | 1 [3.0] | | | |

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|---------------------------------|------------------|------------------|------------------|------------------|
| Fat, Hemorrhage | | | 1 [3.0] | |
| Fat, Necrosis | 2 [3.0] | | 1 [3.0] | 1 [3.0] |

GENITAL SYSTEM

| | | | | |
|--------------------------------------|----------|----------|----------|----------|
| Bulbourethral Gland | (1) | (1) | (0) | (0) |
| Coagulating Gland | (0) | (2) | (3) | (0) |
| Inflammation, Suppurative | | | 1 [4.0] | |
| Inflammation, Chronic Active | | 2 [3.0] | 2 [2.0] | |
| Ductus Deferens | (1) | (0) | (1) | (0) |
| Granuloma | 1 [4.0] | | | |
| Epididymis | (90) | (90) | (90) | (90) |
| Exfoliated Germ Cell | 51 [1.9] | 33 [1.7] | 33 [1.7] | 17 [1.5] |
| Granuloma Sperm | 1 [3.0] | 1 [4.0] | | |
| Hypospermia | 28 [3.4] | 24 [3.1] | 13 [3.7] | 13 [3.0] |
| Inflammation, Chronic | | | | 1 [1.0] |
| Inflammation, Chronic Active | | | 1 [2.0] | |
| Artery, Inflammation, Chronic Active | 2 [2.5] | 3 [3.0] | 3 [2.3] | 3 [2.7] |
| Artery, Thrombus | | | | 1 [4.0] |
| Tail, Developmental Malformation | | 1 | | |
| Penis | (0) | (4) | (2) | (1) |
| Concretion | | 3 [2.7] | 2 [1.5] | 1 [4.0] |
| Prolapse | | 1 [4.0] | | |
| Preputial Gland | (88) | (88) | (89) | (89) |
| Atrophy | 1 [2.0] | 1 [4.0] | | |
| Fibrosis | | | 2 [1.5] | |
| Hyperplasia | 1 [2.0] | | | |
| Inflammation, Suppurative | | 1 [2.0] | | |
| Inflammation, Granulomatous | 1 [4.0] | | | |
| Inflammation, Acute | 1 [1.0] | | | 1 [1.0] |
| Inflammation, Chronic Active | 46 [2.0] | 53 [1.9] | 46 [2.0] | 49 [1.9] |
| Metaplasia, Squamous | | | 1 [3.0] | |
| Artery, Inflammation, Chronic Active | 1 [3.0] | | | |
| Duct, Dilation | 51 [2.4] | 54 [2.4] | 50 [2.7] | 48 [2.4] |
| Duct, Hyperplasia | | 1 [2.0] | | 1 [2.0] |

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|---|------------------|------------------|------------------|------------------|
| Prostate | (90) | (90) | (90) | (85) |
| Decreased Secretory Fluid | 4 [2.0] | 5 [2.0] | 7 [2.0] | 3 [1.7] |
| Hemorrhage | 1 [2.0] | | 1 [4.0] | |
| Infiltration Cellular, Mononuclear Cell | 1 [2.0] | | | 1 [1.0] |
| Inflammation, Acute | 7 [2.9] | 9 [1.7] | 4 [3.0] | 2 [1.5] |
| Inflammation, Chronic Active | 6 [1.2] | 10 [1.7] | 10 [2.0] | 5 [2.0] |
| Artery, Inflammation, Chronic Active | 1 [3.0] | | 3 [2.3] | |
| Artery, Thrombus | | 1 [4.0] | | |
| Epithelium, Hyperplasia | 5 [1.2] | 11 [1.6] | 9 [1.7] | 15 [2.2] |
| Seminal Vesicle | (90) | (90) | (90) | (90) |
| Decreased Secretory Fluid | 35 [2.9] | 34 [3.0] | 18 [2.8] | 7 [3.0] |
| Developmental Malformation | | | 1 | |
| Dilation | | | 1 [2.0] | |
| Hemorrhage | 1 [2.0] | | 1 [3.0] | |
| Hyperplasia, Atypical | | | | 1 [3.0] |
| Inflammation, Acute | 4 [3.0] | 1 [2.0] | 3 [2.3] | 1 [2.0] |
| Inflammation, Chronic Active | 1 [1.0] | 4 [2.3] | | |
| Artery, Inflammation, Chronic Active | 1 [3.0] | | | |
| Epithelium, Hyperplasia | 1 [1.0] | | | |
| Lumen, Hemorrhage | | | 1 [2.0] | |
| Testis | (90) | (89) | (90) | (90) |
| Cyst | 1 | | | |
| Edema | | 2 [3.0] | | |
| Inflammation, Chronic Active | 2 [3.5] | | | |
| Pigment | 1 [1.0] | | | |
| Artery, Inflammation, Chronic Active | 52 [2.9] | 37 [2.8] | 30 [2.5] | 12 [3.1] |
| Germ Cell, Degeneration | 51 [2.3] | 37 [2.6] | 31 [2.2] | 24 [2.1] |
| Germinal Epithelium, Mineral | | 1 [2.0] | | |
| Interstitial Cell, Hyperplasia | 1 [1.0] | 2 [2.5] | | 1 [2.0] |
| Rete Testis, Dilation | 1 [2.0] | | | |
| Seminiferous Tubule, Dilation | 1 [2.0] | 1 [2.0] | 1 [1.0] | |

HEMATOPOIETIC SYSTEM

| | | | | |
|-------------|------|------|------|------|
| Bone Marrow | (90) | (90) | (90) | (90) |
|-------------|------|------|------|------|

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: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|--|------------------|------------------|------------------|------------------|
| Hemorrhage | | 5 [1.8] | 3 [2.3] | |
| Hypercellularity | 15 [1.9] | 25 [2.5] | 18 [1.8] | 13 [1.9] |
| Hypocellularity | | | 1 [2.0] | 1 [3.0] |
| Lymph Node | (25) | (23) | (24) | (16) |
| Bronchial, Erythrophagocytosis | | 2 [2.5] | | |
| Bronchial, Hyperplasia, Lymphocyte | | 1 [1.0] | | |
| Iliac, Erythrophagocytosis | 2 [2.0] | 2 [2.0] | 1 [2.0] | |
| Iliac, Hyperplasia, Lymphocyte | 2 [2.0] | | 2 [1.0] | |
| Iliac, Infiltration Cellular, Histiocyte | 2 [2.0] | 1 [2.0] | | |
| Iliac, Pigment | | | 1 [2.0] | |
| Iliac, Proliferation, Plasma Cell | 3 [2.0] | | 1 [1.0] | |
| Iliac, Lymphatic Sinus, Ectasia | 5 [1.8] | 3 [1.7] | 1 [3.0] | |
| Inguinal, Hyperplasia, Lymphocyte | | | 1 [1.0] | |
| Inguinal, Lymphatic Sinus, Ectasia | | | 1 [2.0] | |
| Lumbar, Erythrophagocytosis | 2 [2.0] | 2 [2.5] | 1 [3.0] | 1 [1.0] |
| Lumbar, Proliferation, Plasma Cell | | 1 [2.0] | | |
| Lumbar, Lymphatic Sinus, Ectasia | | 2 [1.5] | 1 [2.0] | 2 [1.5] |
| Lymphatic Sinus, Mediastinal, Ectasia | 1 [3.0] | 1 [1.0] | 1 [2.0] | 1 [2.0] |
| Lymphatic Sinus, Popliteal, Ectasia | | 1 [2.0] | | |
| Lymphatic Sinus, Renal, Ectasia | | 4 [2.0] | 3 [1.7] | |
| Mediastinal, Erythrophagocytosis | 6 [2.5] | 7 [2.7] | 7 [2.6] | 3 [2.7] |
| Mediastinal, Extramedullary Hematopoiesis | | | 1 [2.0] | |
| Mediastinal, Hemorrhage | 1 [3.0] | 1 [2.0] | 1 [3.0] | 1 [3.0] |
| Mediastinal, Hyperplasia, Lymphocyte | | | 1 [1.0] | |
| Mediastinal, Infiltration Cellular, Histiocyte | | 1 [2.0] | 1 [3.0] | |
| Mediastinal, Inflammation, Acute | | 1 [2.0] | | |
| Mediastinal, Pigment | | 1 [2.0] | | |
| Mediastinal, Proliferation, Plasma Cell | | | 1 [1.0] | |
| Pancreatic, Erythrophagocytosis | 3 [2.3] | 1 [3.0] | 4 [2.5] | 3 [2.0] |
| Pancreatic, Hemorrhage | 1 [2.0] | | | |
| Pancreatic, Hyperplasia, Lymphocyte | 1 [3.0] | | | |
| Pancreatic, Infiltration Cellular, Mixed Cell | | | | 1 [2.0] |
| Renal, Erythrophagocytosis | 8 [2.6] | 6 [2.5] | 4 [2.5] | |
| Renal, Hyperplasia, Lymphocyte | | 1 [1.0] | | |
| Renal, Infiltration Cellular, Mixed Cell | | | | 1 [2.0] |
| Renal, Proliferation, Plasma Cell | 2 [2.0] | | | |

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

Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|--|------------------|------------------|------------------|------------------|
| Lymph Node, Mandibular | (89) | (90) | (90) | (88) |
| Congestion | | 1 [2.0] | 2 [2.0] | |
| Erythrophagocytosis | | 3 [2.0] | 2 [1.0] | 1 [1.0] |
| Hemorrhage | | | 1 [1.0] | |
| Hyperplasia, Lymphocyte | 41 [1.8] | 50 [1.8] | 52 [1.4] | 40 [1.4] |
| Infiltration Cellular, Histiocyte | | 2 [1.0] | | 1 [2.0] |
| Infiltration Cellular, Polymorphonuclear | 2 [2.5] | | | |
| Necrosis, Lymphocyte | | 1 [2.0] | | |
| Proliferation, Plasma Cell | 49 [1.9] | 61 [1.8] | 62 [1.6] | 57 [1.6] |
| Lymphatic Sinus, Ectasia | 16 [1.9] | 24 [2.0] | 29 [1.9] | 14 [1.9] |
| Lymph Node, Mesenteric | (90) | (89) | (88) | (88) |
| Erythrophagocytosis | 17 [1.8] | 5 [2.0] | 5 [1.8] | 9 [1.4] |
| Hyperplasia, Lymphocyte | 2 [1.5] | 3 [1.3] | 3 [1.7] | 3 [1.0] |
| Infiltration Cellular, Histiocyte | 1 [2.0] | | | |
| Infiltration Cellular, Polymorphonuclear | 2 [2.0] | | | 1 [1.0] |
| Proliferation, Plasma Cell | | 1 [2.0] | | |
| Lymphatic Sinus, Ectasia | | 2 [2.0] | 3 [1.7] | 1 [1.0] |
| Lymphocyte, Depletion | 2 [2.5] | | | |
| Spleen | (90) | (90) | (90) | (85) |
| Congestion | | | 1 [3.0] | |
| Developmental Malformation | 1 | | | |
| Extramedullary Hematopoiesis | 45 [1.9] | 60 [2.1] | 56 [1.9] | 48 [1.6] |
| Hemorrhage | | 1 [1.0] | 1 [1.0] | |
| Hyperplasia, Lymphocyte | 5 [1.2] | | | |
| Necrosis | | | 2 [2.0] | |
| Pigment | 57 [1.9] | 54 [1.9] | 64 [1.9] | 63 [1.9] |
| Thrombus | | 1 [3.0] | | |
| Arteriole, Mineral | 1 [2.0] | | | |
| Red Pulp, Atrophy | 26 [2.2] | 14 [1.9] | 12 [2.1] | 13 [2.0] |
| White Pulp, Atrophy | 30 [2.1] | 11 [2.3] | 10 [2.4] | 24 [1.9] |
| Thymus | (88) | (85) | (87) | (82) |
| Atrophy | 79 [3.0] | 76 [2.5] | 80 [2.3] | 65 [2.3] |
| Cyst | 10 | 10 | 10 | 17 |
| Ectopic Parathyroid Gland | 6 | 6 | 7 | 5 |
| Ectopic Thyroid | 1 | | | |
| Hemorrhage | 2 [2.0] | 2 [2.0] | 2 [2.5] | 20 [2.9] |

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

Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|--------------------------------------|------------------|------------------|------------------|------------------|
| Hyperplasia, Epithelial | 2 [1.5] | 2 [1.0] | 4 [1.8] | 4 [1.5] |
| Artery, Inflammation, Chronic Active | 6 [2.7] | 3 [2.3] | 2 [1.5] | 1 [2.0] |

INTEGUMENTARY SYSTEM

| | | | | |
|--|---------|---------|---------|---------|
| Mammary Gland | (82) | (77) | (80) | (80) |
| Atrophy | 1 [4.0] | 2 [2.0] | 3 [2.0] | |
| Galactocoele | 1 | 1 | 2 | |
| Duct, Dilation | 3 [2.0] | 8 [1.8] | 9 [1.9] | 3 [1.0] |
| Skin | (90) | (90) | (90) | (90) |
| Cyst Epithelial Inclusion | 3 | 12 | 3 | 2 |
| Inflammation, Suppurative | | 2 [3.5] | | |
| Inflammation, Chronic Active | 1 [2.0] | 2 [4.0] | 2 [3.0] | 1 [2.0] |
| Ulcer | 2 [4.0] | 2 [3.0] | 4 [2.8] | |
| Adnexa, Atrophy | | | | 1 [2.0] |
| Artery, Subcutaneous Tissue, Inflammation, Chronic Active | 1 [3.0] | | | |
| Dermis, Fibrosis | | | | 1 [1.0] |
| Epidermis, Hyperplasia | 1 [2.0] | 1 [4.0] | | 1 [2.0] |
| Hair Follicle, Congestion | | | | 1 [3.0] |
| Hair Follicle, Degeneration | | | 1 [3.0] | |
| Prepuce, Hyperplasia | | 2 [2.5] | | 1 [3.0] |
| Prepuce, Inflammation, Acute | | | | 1 [2.0] |
| Prepuce, Inflammation, Chronic Active | | 1 [2.0] | | |
| Prepuce, Ulcer | | 2 [3.0] | | 1 [2.0] |
| Subcutaneous Tissue, Hemorrhage | | 1 [4.0] | | |
| Subcutaneous Tissue, Inflammation, Suppurative | 1 [4.0] | | 1 [4.0] | 2 [3.5] |
| Subcutaneous Tissue, Inflammation, Chronic | 1 [2.0] | | 1 [2.0] | |
| Subcutaneous Tissue, Inflammation, Chronic Active | | | 2 [3.5] | |
| Subcutaneous Tissue, Necrosis | | | 1 [4.0] | |

MUSCULOSKELETAL SYSTEM

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: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|---------------------------------------|------------------|------------------|------------------|------------------|
| Bone | (90) | (90) | (90) | (90) |
| Fibrous Osteodystrophy | 46 [1.4] | 20 [1.7] | 15 [1.6] | 5 [1.6] |
| Cranium, Inflammation, Chronic Active | | | 1 [1.0] | |
| Bone, Vertebra | (0) | (0) | (1) | (0) |
| Developmental Malformation | | | 1 | |
| Skeletal Muscle | (90) | (90) | (90) | (90) |
| Degeneration | 34 [1.8] | 35 [1.4] | 30 [1.6] | 26 [1.7] |
| Inflammation, Chronic Active | | | 1 [4.0] | |
| Mineral | 2 [1.0] | | 1 [1.0] | |
| Diaphragm, Hernia | | 1 [3.0] | | |

NERVOUS SYSTEM

| | | | | |
|---|----------|----------|----------|----------|
| Brain | (90) | (90) | (90) | (90) |
| Compression | 7 [1.6] | 12 [1.7] | 6 [1.2] | 3 [1.3] |
| Edema | | 1 [1.0] | | |
| Hemorrhage | 2 [1.5] | 3 [2.0] | | |
| Infiltration Cellular, Mononuclear Cell | 1 [1.0] | | | |
| Inflammation, Suppurative | | | 1 [3.0] | |
| Mineral | 5 [1.0] | 3 [1.0] | 4 [1.0] | 4 [1.0] |
| Necrosis | 7 [1.7] | 7 [1.6] | 3 [2.0] | |
| Choroid Plexus, Degeneration | 1 [2.0] | | | |
| Choroid Plexus, Mineral | 3 [1.0] | 1 [1.0] | | |
| Glial Cell, Hyperplasia | | 2 [1.5] | | 2 [2.5] |
| Hypothalamus, Cyst | | 3 | | |
| Meninges, Fibrosis | | 1 [1.0] | | |
| Meninges, Hyperplasia | 1 [1.0] | | 1 [1.0] | |
| Meninges, Hyperplasia, Granular Cell | 1 [1.0] | 1 [2.0] | | |
| Meninges, Mineral | | 1 [1.0] | | |
| Pineal Gland, Mineral | 3 [1.3] | 3 [1.0] | 2 [1.0] | |
| Pineal Gland, Vacuolation, Cytoplasmic | 12 [2.0] | 6 [1.2] | 9 [1.3] | 4 [1.5] |
| Nerve Trigeminal | (84) | (90) | (88) | (90) |
| Degeneration | 63 [2.0] | 66 [1.8] | 67 [2.1] | 49 [2.2] |
| Peripheral Nerve, Sciatic | (90) | (90) | (90) | (90) |
| Degeneration | 86 [2.4] | 90 [2.5] | 88 [2.8] | 84 [2.3] |

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Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|---|------------------|------------------|------------------|------------------|
| Infiltration Cellular, Histiocyte | | | 1 [1.0] | |
| Infiltration Cellular, Mononuclear Cell | 1 [1.0] | | | |
| Peripheral Nerve, Tibial | (88) | (90) | (90) | (89) |
| Degeneration | 84 [2.6] | 90 [2.7] | 89 [2.8] | 81 [2.5] |
| Spinal Cord, Cervical | (90) | (90) | (90) | (90) |
| Degeneration | 30 [1.0] | 36 [1.0] | 42 [1.0] | 35 [1.0] |
| Meninges, Inflammation, Suppurative | | | 1 [2.0] | |
| Spinal Cord, Lumbar | (90) | (90) | (90) | (90) |
| Degeneration | 21 [1.0] | 15 [1.0] | 21 [1.1] | 24 [1.0] |
| Nerve, Degeneration | 79 [2.4] | 85 [2.7] | 83 [2.9] | 76 [2.8] |
| Spinal Cord, Thoracic | (90) | (90) | (90) | (90) |
| Degeneration | 58 [1.5] | 69 [1.9] | 74 [1.7] | 62 [1.8] |
| Hemorrhage, Focal | 1 [1.0] | | | |
| Meninges, Inflammation, Suppurative | | | 1 [1.0] | |
| Trigeminal Ganglion | (75) | (77) | (79) | (83) |
| Degeneration | 23 [1.0] | 22 [1.0] | 21 [1.0] | 16 [1.2] |

RESPIRATORY SYSTEM

| | | | | |
|---|----------|----------|----------|----------|
| Lung | (90) | (90) | (90) | (90) |
| Congestion | 13 [2.0] | 13 [2.2] | 11 [2.1] | 33 [2.6] |
| Foreign Body | 4 | 2 | 1 | 1 |
| Hemorrhage | 3 [1.7] | 5 [2.0] | 2 [2.5] | 4 [3.3] |
| Inflammation, Suppurative | 3 [2.7] | | 1 [2.0] | 2 [3.5] |
| Inflammation, Granulomatous | | 6 [1.2] | 1 [1.0] | |
| Inflammation, Chronic | | 1 [2.0] | 1 [3.0] | |
| Inflammation, Chronic Active | 2 [1.0] | 1 [2.0] | 1 [1.0] | |
| Inflammation, Subacute | 2 [1.5] | | | |
| Metaplasia, Osseous | | | 1 [1.0] | |
| Alveolus, Infiltration Cellular, Histiocyte | 37 [1.2] | 38 [1.4] | 42 [1.2] | 47 [1.3] |
| Artery, Inflammation, Chronic Active | 3 [2.3] | 3 [1.7] | 1 [2.0] | |
| Artery, Mineral | 1 [2.0] | | | |
| Artery, Mediastinum, Inflammation, Chronic Active | 2 [1.5] | | | |
| Epithelium Alveolus, Hyperplasia | 3 [2.7] | 2 [3.0] | 1 [1.0] | 1 [1.0] |

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

Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|---|------------------|------------------|------------------|------------------|
| Interstitial, Inflammation, Chronic | | 5 [2.2] | | |
| Interstitial, Inflammation, Chronic Active | | 1 [2.0] | | |
| Interstitial, Mineral | 1 [2.0] | 1 [1.0] | 1 [2.0] | |
| Mediastinum, Inflammation, Suppurative | | | 1 [3.0] | |
| Perivascular, Infiltration Cellular, Lymphocyte | | | 1 [2.0] | |
| Perivascular, Inflammation, Chronic Active | 1 [2.0] | | | |
| Nose | (89) | (90) | (90) | (87) |
| Foreign Body | 5 | 2 | 3 | 8 |
| Hyperplasia, Lymphocyte | | 1 [2.0] | | |
| Inflammation, Suppurative | 10 [1.6] | 6 [1.3] | 10 [1.2] | 17 [1.5] |
| Inflammation, Chronic Active | | | | 2 [1.5] |
| Mineral | | | | 1 [2.0] |
| Nasopharyngeal Duct, Respiratory Epithelium, Hyperplasia | 1 [3.0] | | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 79 [1.9] | 88 [1.8] | 90 [2.0] | 76 [2.0] |
| Olfactory Epithelium, Hyperplasia | | 1 [2.0] | | |
| Olfactory Epithelium, Metaplasia, Respiratory | 3 [1.0] | 2 [1.0] | 1 [1.0] | 4 [1.5] |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | 3 [1.0] | 1 [1.0] | 2 [1.0] | 3 [1.7] |
| Respiratory Epithelium, Hyperplasia | 3 [1.3] | 4 [1.5] | 8 [1.6] | 7 [1.3] |
| Respiratory Epithelium, Hyperplasia, Goblet Cell | 1 [1.0] | | | |
| Respiratory Epithelium, Mineral | 1 [2.0] | | | |
| Trachea | (90) | (88) | (88) | (72) |
| Artery, Inflammation, Chronic Active | | 1 [2.0] | | |
| Artery, Mineral | 1 [3.0] | | | |
| Epithelium, Hyperplasia | 1 [3.0] | | | |
| Epithelium, Metaplasia, Squamous | 1 [1.0] | | | |

SPECIAL SENSES SYSTEM

| | | | | |
|---------------------------------------|---------|---------|---------|---------|
| Eye | (85) | (83) | (81) | (72) |
| Phthisis Bulbi | | | 1 [3.0] | |
| Retinal Detachment | 1 [3.0] | | 1 [3.0] | |
| Anterior Chamber, Inflammation, Acute | 4 [1.8] | 8 [1.4] | 5 [1.4] | 1 [1.0] |

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

Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|-----------------------------------|------------------|------------------|------------------|------------------|
| Cornea, Fibrosis | 1 [1.0] | 2 [1.0] | 2 [1.0] | 4 [1.5] |
| Cornea, Inflammation, Acute | 28 [2.1] | 18 [1.5] | 19 [1.7] | 17 [1.4] |
| Cornea, Neovascularization | 10 [1.4] | 14 [1.1] | 14 [1.0] | 21 [1.3] |
| Cornea, Ulcer | 6 [2.5] | 1 [2.0] | | |
| Cornea, Epithelium, Degeneration | | | 1 [1.0] | 2 [1.0] |
| Cornea, Epithelium, Hyperplasia | 13 [2.4] | 15 [1.7] | 17 [1.9] | 20 [1.9] |
| Lens, Cataract | | 1 [3.0] | | |
| Retina, Atrophy | 6 [1.3] | 17 [1.1] | 17 [1.0] | 8 [1.0] |
| Retina, Degeneration | 1 [1.0] | | | |
| Retina, Dysplasia | | | | 1 |
| Harderian Gland | (90) | (90) | (90) | (89) |
| Atrophy | 1 [1.0] | 4 [1.0] | 2 [1.0] | 3 [1.0] |
| Degeneration | | | 1 [2.0] | 1 [1.0] |
| Degeneration, Cystic | 2 [1.5] | 4 [1.3] | 1 [1.0] | |
| Hyperplasia | | | | 2 [1.5] |
| Infiltration Cellular, Lymphocyte | | 3 [1.0] | | 3 [1.7] |
| Inflammation, Suppurative | | 1 [4.0] | | |
| Inflammation, Granulomatous | | 5 [1.0] | 2 [1.0] | |
| Inflammation, Acute | 2 [2.5] | 1 [3.0] | | |
| Inflammation, Chronic | | 1 [1.0] | | 1 [1.0] |
| Inflammation, Chronic Active | 2 [1.0] | 2 [1.0] | 1 [2.0] | 1 [1.0] |
| Lacrimal Gland | (2) | (1) | (1) | (1) |
| Metaplasia, Harderian Gland | 2 [2.0] | 1 [3.0] | 1 [3.0] | 1 [1.0] |
| Zymbal's Gland | (0) | (0) | (1) | (1) |

URINARY SYSTEM

| | | | | |
|--------------------------------------|----------|----------|----------|----------|
| Kidney | (90) | (90) | (90) | (87) |
| Mineral | 1 [3.0] | | 2 [2.0] | |
| Necrosis | | | 1 [2.0] | |
| Nephropathy, Chronic Progressive | 88 [3.7] | 90 [3.3] | 90 [3.0] | 86 [2.3] |
| Thrombus | 1 [3.0] | 1 [3.0] | 1 [3.0] | |
| Artery, Inflammation, Chronic Active | | | 1 [4.0] | |
| Artery, Mineral | 2 [2.0] | | | |
| Pelvis, Dilatation | 1 [2.0] | | 1 [1.0] | 1 [3.0] |

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Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

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CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS MALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|---|------------------|------------------|------------------|------------------|
| Pelvis, Inflammation, Suppurative | | 1 [1.0] | 1 [1.0] | |
| Pelvis, Urothelium, Hyperplasia | | 3 [2.0] | 1 [1.0] | |
| Perirenal Tissue, Hemorrhage | | | | 1 [4.0] |
| Perirenal Tissue, Thrombus | | | 1 [2.0] | |
| Renal Tubule, Accumulation, Hyaline Droplet | | | | 1 [2.0] |
| Renal Tubule, Cyst | 18 | 17 | 9 | 6 |
| Renal Tubule, Hyperplasia, Atypical | 2 [3.0] | 1 [2.0] | 3 [3.3] | |
| Renal Tubule, Hyperplasia, Oncocytic | 2 [1.0] | | | |
| Renal Tubule, Inflammation, Suppurative | | | 1 [1.0] | |
| Renal Tubule, Necrosis | | | | 1 [3.0] |
| Urothelium, Hyperplasia | 1 [2.0] | | 1 [4.0] | |
| Urinary Bladder | (89) | (83) | (83) | (78) |
| Dilation | | 1 [4.0] | | |
| Hemorrhage | 2 [3.0] | 1 [2.0] | 2 [4.0] | 1 [2.0] |
| Inflammation, Acute | 2 [2.5] | 1 [1.0] | 1 [3.0] | |
| Inflammation, Chronic Active | | 2 [2.5] | | |
| Necrosis | 1 [1.0] | | 1 [3.0] | |
| Artery, Inflammation, Chronic Active | | 1 [2.0] | | 1 [4.0] |
| Muscularis, Degeneration | 1 [1.0] | | | |
| Serosa, Inflammation, Chronic Active | | | 1 [2.0] | |
| Urothelium, Hyperplasia | 1 [1.0] | 4 [2.5] | 2 [1.0] | 1 [1.0] |

*** END OF MALE ***

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

Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS FEMALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|-----------------------------------|------------------|------------------|------------------|------------------|
|-----------------------------------|------------------|------------------|------------------|------------------|

Disposition Summary

| | | | | |
|---|------------|------------|------------|------------|
| Animals Initially In Study | 105 | 105 | 105 | 105 |
| Early Deaths | | | | |
| Accidentally Killed | 1 | | | |
| Moribund Sacrifice | 30 | 29 | 28 | 16 |
| Natural Death | 11 | 15 | 12 | 13 |
| Survivors | | | | |
| Moribund Sacrifice | 1 | 2 | | |
| Terminal Sacrifice | 47 | 44 | 50 | 61 |
| Animals Examined Microscopically | 90 | 90 | 90 | 90 |

ALIMENTARY SYSTEM

| | | | | |
|--------------------------------------|---------|---------|---------|---------|
| Esophagus | (90) | (90) | (90) | (90) |
| Dilation | | 2 [2.5] | | |
| Inflammation, Acute | | | | 1 [1.0] |
| Muscularis, Degeneration | | 1 [2.0] | | |
| Intestine Large, Cecum | (84) | (82) | (86) | (80) |
| Ulcer | | | 1 [3.0] | |
| Artery, Inflammation, Chronic Active | | 2 [2.5] | | |
| Intestine Large, Colon | (89) | (89) | (88) | (88) |
| Diverticulum | | | 1 [2.0] | |
| Artery, Inflammation, Chronic Active | | 1 [2.0] | | |
| Intestine Large, Rectum | (90) | (88) | (87) | (88) |
| Hyperplasia, Lymphocyte | | | 3 [1.7] | |
| Artery, Inflammation, Chronic Active | | 1 [2.0] | | |
| Intestine Small, Duodenum | (88) | (86) | (87) | (85) |
| Intestine Small, Ileum | (86) | (83) | (84) | (83) |
| Hyperplasia, Lymphocyte | 1 [2.0] | | | |
| Intestine Small, Jejunum | (83) | (81) | (84) | (79) |
| Liver | (90) | (90) | (90) | (90) |
| Angiectasis | 6 [1.2] | 3 [1.3] | 9 [1.7] | 3 [1.3] |
| Basophilic Focus | 11 | 11 | 7 | 15 |
| Clear Cell Focus | 2 | 4 | 7 | 3 |
| Congestion | | | | 1 [1.0] |

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|--------------------------------------|------------------|------------------|------------------|------------------|
| Eosinophilic Focus | 9 | 17 | 10 | 9 |
| Extramedullary Hematopoiesis | 15 [1.1] | 11 [1.0] | 13 [1.1] | 13 [1.0] |
| Hepatodiaphragmatic Nodule | 1 | | | 3 |
| Infiltration Cellular, Histiocyte | | 1 [1.0] | | |
| Infiltration Cellular, Mixed Cell | 1 [1.0] | 2 [1.0] | 4 [1.3] | 2 [1.0] |
| Inflammation, Granulomatous | | 1 [2.0] | | |
| Mitotic Alteration | | | | 1 [1.0] |
| Mixed Cell Focus | 29 | 17 | 29 | 35 |
| Pigment | | 1 [2.0] | | |
| Artery, Inflammation, Chronic Active | | 1 [2.0] | | |
| Bile Duct, Cyst | 11 | 14 | 6 | 9 |
| Bile Duct, Fibrosis | 1 [1.0] | 1 [1.0] | 4 [1.8] | |
| Bile Duct, Hyperplasia | 9 [1.2] | 10 [1.2] | 12 [1.0] | 7 [1.0] |
| Hepatocyte, Hypertrophy | 2 [2.0] | 2 [1.5] | 1 [2.0] | 1 [2.0] |
| Hepatocyte, Increased Mitoses | 2 [1.0] | | | |
| Hepatocyte, Necrosis | 4 [1.5] | 9 [2.1] | 7 [1.7] | 4 [1.3] |
| Hepatocyte, Vacuolation, Cytoplasmic | 1 [2.0] | 5 [2.2] | 5 [3.0] | 9 [1.4] |
| Kupffer Cell, Hyperplasia | 3 [1.0] | | | 1 [1.0] |
| Kupffer Cell, Hypertrophy | 2 [1.5] | | | |
| Kupffer Cell, Pigment | | | 1 [2.0] | 1 [1.0] |
| Periductal, Cholangiofibrosis | 1 [2.0] | 1 [2.0] | 1 [1.0] | 1 [4.0] |
| Serosa, Inflammation, Chronic Active | 1 [2.0] | | | |
| Mesentery | (4) | (3) | (11) | (4) |
| Hemorrhage | | | 1 [2.0] | |
| Inflammation, Chronic Active | 1 [4.0] | | | 1 [1.0] |
| Necrosis | 1 [1.0] | 1 [2.0] | 5 [2.0] | 2 [3.0] |
| Artery, Inflammation, Chronic Active | | 2 [3.0] | 2 [2.0] | |
| Vein, Degeneration | | | 1 [2.0] | |
| Vein, Inflammation, Chronic Active | | | 1 [1.0] | 1 [1.0] |
| Oral Mucosa | (1) | (1) | (0) | (0) |
| Inflammation, Chronic Active | | 1 [4.0] | | |
| Pancreas | (90) | (90) | (90) | (89) |
| Ectopic Liver | 1 | | 1 | |
| Inflammation, Chronic Active | 1 [2.0] | | | 3 [1.0] |
| Necrosis | | | | 1 [3.0] |
| Acinus, Atrophy | 5 [1.0] | 2 [1.0] | 6 [1.3] | 2 [1.5] |

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|--|------------------|------------------|------------------|------------------|
| Acinus, Hyperplasia | 1 [2.0] | 4 [1.5] | 2 [1.5] | 2 [1.5] |
| Artery, Inflammation, Chronic Active | | 5 [2.4] | | 1 [1.0] |
| Periductal, Cholangiofibrosis | | 3 [1.3] | 2 [1.5] | 1 [2.0] |
| Salivary Glands | (90) | (90) | (90) | (90) |
| Degeneration | | 1 [1.0] | | |
| Artery, Inflammation, Chronic Active | | 3 [2.7] | | |
| Duct, Parotid Gland, Dilation | 1 [3.0] | 1 [2.0] | 2 [2.0] | |
| Duct, Parotid Gland, Fibrosis | | | 1 [1.0] | |
| Parotid Gland, Atrophy | 4 [2.3] | 7 [2.9] | 9 [2.8] | 1 [3.0] |
| Parotid Gland, Fibrosis | | | 2 [1.5] | 3 [1.0] |
| Parotid Gland, Inflammation, Suppurative | | 1 [1.0] | | |
| Parotid Gland, Inflammation, Acute | | 1 [1.0] | 1 [2.0] | |
| Parotid Gland, Mineral | | | | 1 [1.0] |
| Parotid Gland, Vacuolation, Cytoplasmic | | | 1 [1.0] | |
| Sublingual Gland, Atrophy | | 2 [2.5] | 3 [2.3] | |
| Sublingual Gland, Fibrosis | | | 1 [2.0] | |
| Sublingual Gland, Metaplasia | | 1 [1.0] | | 1 [2.0] |
| Submandibular Gland, Atrophy | | | 1 [2.0] | 1 [2.0] |
| Stomach, Forestomach | (90) | (90) | (90) | (90) |
| Cyst, Squamous | | | | 1 |
| Edema | 2 [2.0] | 2 [2.5] | 2 [1.5] | 3 [2.0] |
| Erosion | 2 [1.5] | 1 [2.0] | | |
| Fibrosis | 1 [2.0] | 1 [2.0] | 1 [1.0] | |
| Inflammation, Acute | | | | 1 [1.0] |
| Inflammation, Chronic Active | 4 [1.8] | 5 [2.0] | 2 [1.5] | 1 [2.0] |
| Ulcer | 1 [2.0] | 3 [2.7] | 3 [2.0] | 3 [1.7] |
| Epithelium, Hyperplasia | 10 [1.8] | 11 [2.1] | 8 [2.3] | 8 [2.0] |
| Epithelium, Hyperplasia, Basal Cell | 1 [1.0] | 1 [1.0] | 2 [1.0] | |
| Stomach, Glandular | (90) | (90) | (89) | (88) |
| Cyst | | 1 | | |
| Erosion | 1 [2.0] | | 1 [1.0] | 1 [1.0] |
| Artery, Inflammation, Chronic Active | | 1 [2.0] | | |
| Tongue | (1) | (0) | (0) | (0) |

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Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

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

CARDIOVASCULAR SYSTEM

| | | | | |
|--|----------|----------|----------|----------|
| Aorta | (90) | (90) | (90) | (90) |
| Blood Vessel | (0) | (0) | (0) | (1) |
| Pulmonary Artery, Degeneration | | | | 1 [1.0] |
| Heart | (90) | (90) | (90) | (90) |
| Cardiomyopathy | 40 [1.1] | 43 [1.1] | 33 [1.2] | 45 [1.1] |
| Artery, Inflammation, Chronic | | 1 [2.0] | | |
| Artery, Mineral | | 1 [1.0] | | |
| Artery, Necrosis | | 1 [1.0] | | |
| Atrium, Endocardium, Hyperplasia, Schwann Cell | | | 1 [1.0] | |
| Endocardium, Hyperplasia, Schwann Cell | | 1 [3.0] | | 1 [1.0] |
| Epicardium, Inflammation, Acute | | | 1 [2.0] | |
| Ventricle Right, Cardiomyopathy | 4 [1.0] | 7 [1.0] | 9 [1.0] | 9 [1.0] |

ENDOCRINE SYSTEM

| | | | | |
|-----------------------------------|----------|----------|----------|----------|
| Adrenal Cortex | (90) | (90) | (90) | (90) |
| Accessory Adrenal Cortical Nodule | 5 | 7 | 6 | 12 |
| Atrophy | 1 [4.0] | | 2 [3.5] | |
| Degeneration, Cystic | 22 [1.7] | 19 [2.1] | 18 [1.8] | 19 [1.9] |
| Extramedullary Hematopoiesis | | | 1 [1.0] | |
| Hyperplasia | 14 [1.9] | 31 [1.7] | 26 [1.7] | 19 [1.7] |
| Hypertrophy | 52 [1.5] | 55 [1.6] | 56 [1.7] | 50 [1.4] |
| Necrosis | 2 [2.5] | 2 [3.0] | 2 [2.5] | 4 [2.5] |
| Pigment | 1 [3.0] | | 1 [3.0] | |
| Vacuolation, Cytoplasmic | 18 [1.5] | 17 [1.1] | 11 [1.4] | 14 [1.5] |
| Adrenal Medulla | (86) | (89) | (87) | (88) |
| Hyperplasia | 13 [1.5] | 20 [1.7] | 20 [1.3] | 18 [1.9] |
| Hypertrophy | | | | 1 [1.0] |
| Necrosis | 1 [3.0] | | | 1 [4.0] |
| Islets, Pancreatic | (90) | (89) | (90) | (88) |
| Hyperplasia | 15 [1.2] | 12 [1.3] | 14 [1.1] | 13 [1.8] |
| Parathyroid Gland | (87) | (80) | (85) | (85) |

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Time Report Requested: 13:31:21

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First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

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|--|------------------|------------------|------------------|------------------|
| Cyst | | | 2 | |
| Fibrosis | 13 [1.2] | 11 [1.2] | 6 [1.2] | 10 [1.5] |
| Hyperplasia | | 2 [3.0] | | 3 [1.3] |
| Hyperplasia, Focal | 3 [1.3] | | 2 [1.5] | |
| Hypertrophy, Focal | | | | 1 [1.0] |
| Pituitary Gland | (90) | (89) | (89) | (90) |
| Angiectasis | | 1 [2.0] | | |
| Atrophy | | | 1 [3.0] | |
| Cyst | 1 | | 1 | |
| Fibrosis | | | 1 [1.0] | |
| Pigment | | | 2 [2.5] | |
| Pars Distalis, Angiectasis | 2 [2.5] | | | |
| Pars Distalis, Cyst | 7 | 5 | 3 | 1 |
| Pars Distalis, Hyperplasia | 20 [2.5] | 22 [2.2] | 26 [1.9] | 22 [2.8] |
| Pars Distalis, Vacuolation, Cytoplasmic | | | 1 [1.0] | |
| Pars Intermedia, Cyst | 3 | 3 | 1 | 3 |
| Pars Intermedia, Hyperplasia | 1 [2.0] | | 1 [4.0] | |
| Pars Nervosa, Developmental Malformation | | | | 1 |
| Thyroid Gland | (90) | (90) | (90) | (89) |
| C-cell, Hyperplasia | 28 [2.3] | 30 [1.9] | 34 [1.9] | 38 [2.1] |
| C-cell, Hypoplasia | | | | 1 [3.0] |
| Follicle, Cyst | 1 | | 1 | |
| Follicular Cell, Hyperplasia | | 1 [1.0] | | |

GENERAL BODY SYSTEM

| | | | | |
|------------------------------------|---------|---------|---------|---------|
| Tissue NOS | (8) | (11) | (8) | (6) |
| Cyst | | 1 | | |
| Inflammation, Chronic Active | 1 [4.0] | 1 [4.0] | | |
| Abdominal, Fat, Necrosis | | 5 [2.0] | 3 [2.0] | 2 [2.0] |
| Fat, Necrosis | 6 [2.7] | 4 [2.3] | 4 [2.8] | 3 [2.7] |
| Mediastinum, Cyst | | | | 1 |
| Mediastinum, Hemorrhage | | 1 [4.0] | | |
| Mediastinum, Inflammation, Chronic | | 1 [4.0] | | |

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

GENITAL SYSTEM

| | | | | |
|------------------------------------|----------|----------|----------|----------|
| Clitoral Gland | (87) | (88) | (89) | (86) |
| Hyperplasia | | 1 [4.0] | | |
| Inflammation, Suppurative | 1 [2.0] | 1 [2.0] | | |
| Inflammation, Granulomatous | | | | 1 [1.0] |
| Inflammation, Acute | | 1 [1.0] | | |
| Inflammation, Chronic | | | 1 [2.0] | 1 [1.0] |
| Inflammation, Chronic Active | 28 [1.7] | 43 [2.0] | 35 [1.7] | 42 [1.7] |
| Duct, Dilation | 47 [2.9] | 64 [2.8] | 65 [2.7] | 60 [2.6] |
| Duct, Hyperplasia | | 3 [2.3] | 4 [2.3] | 1 [3.0] |
| Ovary | (90) | (90) | (89) | (90) |
| Atrophy | 72 [3.0] | 69 [3.4] | 56 [3.5] | 77 [3.5] |
| Congestion | 1 [2.0] | | | |
| Cyst | 22 | 27 | 23 | 34 |
| Fibrosis | | 1 [1.0] | 1 [4.0] | 1 [4.0] |
| Hemorrhage | | | | 1 [1.0] |
| Inflammation, Chronic | | 1 [1.0] | 1 [3.0] | |
| Inflammation, Chronic Active | | | 1 [3.0] | |
| Pigment | | | | 1 [3.0] |
| Bursa, Dilation | 4 [2.8] | 4 [2.3] | 2 [3.0] | 1 [2.0] |
| Follicle, Cyst | | | | 1 |
| Periovarian Tissue, Cyst | | | 1 | |
| Rete Ovarii, Cyst | | | 1 | |
| Rete Ovarii, Hyperplasia | 15 [2.0] | 17 [1.6] | 14 [1.6] | 11 [1.7] |
| Oviduct | (1) | (0) | (0) | (0) |
| Cyst | 1 | | | |
| Uterus | (90) | (90) | (90) | (90) |
| Adenomyosis | | 2 [2.0] | 2 [1.0] | |
| Angiectasis | 1 [2.0] | | | |
| Cyst | 5 | 6 | 7 | 11 |
| Dilation | 8 [2.1] | 10 [3.2] | 11 [2.7] | 8 [3.8] |
| Fibrosis | 1 [3.0] | | 1 [3.0] | |
| Hemorrhage | | | 1 [4.0] | 4 [3.3] |
| Infiltration Cellular, Plasma Cell | | 1 [2.0] | | |
| Inflammation, Suppurative | 4 [2.3] | 11 [2.0] | 8 [2.1] | 12 [2.0] |

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|-----------------------------------|------------------|------------------|------------------|------------------|
| Inflammation, Acute | 1 [1.0] | 1 [1.0] | 1 [3.0] | 1 [1.0] |
| Inflammation, Chronic Active | | | 4 [3.0] | 1 [2.0] |
| Thrombus | 1 [4.0] | 1 [1.0] | | |
| Cervix, Hyperplasia, Stromal | 2 [3.0] | 1 [3.0] | 1 [4.0] | 1 [4.0] |
| Cervix, Thrombus | | 1 [3.0] | | |
| Cervix, Epithelium, Hyperplasia | | 1 [1.0] | | |
| Cervix, Serosa, Fibrosis | 1 [2.0] | | | |
| Endometrium, Hyperplasia, Cystic | 37 [1.7] | 43 [1.7] | 35 [1.9] | 46 [1.7] |
| Epithelium, Metaplasia, Squamous | 48 [2.0] | 39 [2.1] | 28 [1.9] | 46 [2.0] |
| Glands, Dilation | | 1 [3.0] | | |
| Vagina | (2) | (1) | (0) | (1) |
| Cyst | | | | 1 |

HEMATOPOIETIC SYSTEM

| | | | | |
|--|----------|----------|----------|----------|
| Bone Marrow | (90) | (90) | (90) | (90) |
| Fibrosis | | 2 [2.0] | | |
| Hypercellularity | 56 [2.8] | 52 [2.9] | 43 [3.1] | 43 [3.2] |
| Lymph Node | (13) | (8) | (11) | (20) |
| Erythrophagocytosis | | 1 [3.0] | | |
| Axillary, Erythrophagocytosis | | | | 1 [3.0] |
| Axillary, Proliferation, Plasma Cell | 1 [3.0] | | | |
| Bronchial, Erythrophagocytosis | | | 1 [2.0] | |
| Bronchial, Proliferation, Plasma Cell | | | 1 [1.0] | |
| Deep Cervical, Erythrophagocytosis | | | | 1 [3.0] |
| Iliac, Erythrophagocytosis | 3 [2.3] | 3 [2.7] | 1 [3.0] | 3 [2.3] |
| Iliac, Hyperplasia, Lymphocyte | 1 [1.0] | | 1 [1.0] | 6 [1.2] |
| Iliac, Infiltration Cellular, Histiocyte | | | | 1 [2.0] |
| Iliac, Inflammation, Acute | 1 [2.0] | | | |
| Iliac, Pigment | 1 [1.0] | | | 3 [1.3] |
| Iliac, Proliferation, Plasma Cell | 6 [2.3] | 1 [1.0] | 2 [2.5] | 5 [1.6] |
| Iliac, Lymphatic Sinus, Ectasia | | 1 [3.0] | 1 [2.0] | 5 [2.2] |
| Inguinal, Erythrophagocytosis | 1 [2.0] | | | |
| Inguinal, Hyperplasia, Lymphocyte | | | 1 [1.0] | |
| Inguinal, Pigment | | | 1 [1.0] | |

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|---|------------------|------------------|------------------|------------------|
| Inguinal, Proliferation, Plasma Cell | 1 [3.0] | | | |
| Inguinal, Lymphatic Sinus, Ectasia | 1 [2.0] | 1 [1.0] | 1 [2.0] | |
| Lumbar, Erythrophagocytosis | 1 [3.0] | 2 [2.5] | | |
| Lumbar, Hyperplasia, Lymphocyte | | | | 1 [2.0] |
| Lumbar, Lymphatic Sinus, Ectasia | | | | 1 [1.0] |
| Lymphatic Sinus, Renal, Ectasia | | 1 [2.0] | | |
| Mediastinal, Congestion | 1 [2.0] | | | |
| Mediastinal, Erythrophagocytosis | | 2 [3.0] | 4 [2.5] | 4 [1.8] |
| Mediastinal, Proliferation, Plasma Cell | 1 [3.0] | | | |
| Pancreatic, Erythrophagocytosis | 1 [3.0] | | 1 [3.0] | |
| Pancreatic, Infiltration Cellular, Histiocyte | | | | 1 [2.0] |
| Renal, Erythrophagocytosis | | 2 [2.5] | | |
| Lymph Node, Mandibular Congestion | (90) | (90) | (89) | (90) |
| Erythrophagocytosis | | 2 [2.0] | | 1 [2.0] |
| Hemorrhage | 1 [1.0] | | | |
| Hyperplasia, Lymphocyte | 46 [1.3] | 49 [1.6] | 45 [1.4] | 43 [1.5] |
| Infiltration Cellular, Histiocyte | | | | 1 [1.0] |
| Pigment | | | | 1 [2.0] |
| Proliferation, Plasma Cell | 68 [1.6] | 68 [1.8] | 58 [1.7] | 56 [1.6] |
| Lymphatic Sinus, Ectasia | 1 [1.0] | 2 [2.5] | 2 [1.5] | 3 [1.0] |
| Lymph Node, Mesenteric Atrophy | (90) | (90) | (90) | (89) |
| Erythrophagocytosis | 1 [3.0] | 3 [1.3] | 2 [1.5] | |
| Hyperplasia, Lymphocyte | | | 1 [1.0] | |
| Infiltration Cellular, Histiocyte | 2 [1.5] | | | 1 [1.0] |
| Lymphatic Sinus, Ectasia | | | 1 [1.0] | 1 [1.0] |
| Spleen Accessory Spleen | (90) | (90) | (90) | (90) |
| Extramedullary Hematopoiesis | 80 [2.4] | 74 [2.1] | 79 [2.2] | 82 [2.1] |
| Fibrosis | | 1 [2.0] | | |
| Hemorrhage | | 1 [1.0] | | 1 [1.0] |
| Hyperplasia, Lymphocyte | | 1 [2.0] | | |
| Hyperplasia, Stromal | 1 [4.0] | | 1 [2.0] | |
| Pigment | 74 [1.9] | 79 [2.0] | 77 [1.9] | 79 [1.8] |
| Red Pulp, Atrophy | 7 [2.3] | 11 [2.5] | 13 [2.0] | 6 [2.2] |

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Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS FEMALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|--------------------------------------|------------------|------------------|------------------|------------------|
| White Pulp, Atrophy | 3 [1.3] | 3 [2.0] | 4 [2.8] | 1 [2.0] |
| Thymus | (87) | (83) | (87) | (87) |
| Atrophy | 75 [1.7] | 67 [1.7] | 74 [1.9] | 63 [1.7] |
| Cyst | 39 | 34 | 34 | 45 |
| Ectopic Parathyroid Gland | 1 | 2 | 2 | 2 |
| Hemorrhage | 2 [2.0] | 5 [2.0] | 5 [2.2] | 3 [2.3] |
| Hyperplasia, Epithelial | 55 [1.2] | 59 [1.3] | 54 [1.2] | 38 [1.4] |
| Hyperplasia, Lymphocyte | | | 1 [2.0] | |
| Artery, Inflammation, Chronic Active | | 2 [2.0] | 1 [3.0] | |

INTEGUMENTARY SYSTEM

| | | | | |
|---|----------|----------|----------|----------|
| Mammary Gland | (90) | (90) | (90) | (90) |
| Galactocele | 24 | 17 | 17 | 10 |
| Hyperplasia | 49 [2.1] | 50 [2.1] | 46 [2.2] | 34 [2.1] |
| Inflammation, Granulomatous | | | 2 [3.5] | |
| Inflammation, Acute | | | | 1 [1.0] |
| Inflammation, Chronic Active | | | 2 [1.5] | 1 [1.0] |
| Duct, Dilation | 56 [2.1] | 61 [2.1] | 51 [2.0] | 70 [1.6] |
| Skin | (90) | (90) | (90) | (90) |
| Cyst Epithelial Inclusion | 1 | 1 | 3 | 1 |
| Hyperkeratosis | | 1 [1.0] | | |
| Inflammation, Chronic Active | 1 [2.0] | | | 1 [1.0] |
| Ulcer | | | 1 [2.0] | |
| Epidermis, Hyperplasia | 2 [3.0] | | | |
| Lymphatic, Subcutaneous Tissue, Angiectasis | | | | 1 [3.0] |
| Subcutaneous Tissue, Inflammation, Chronic Active | | 1 [4.0] | | |

MUSCULOSKELETAL SYSTEM

| | | | | |
|------------------------|------|---------|------|------|
| Bone | (90) | (90) | (90) | (90) |
| Fibrous Osteodystrophy | | 1 [2.0] | | |
| Cranium, Fracture | 1 | | | |
| Mandible, Fracture | 1 | | | |

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Test Type: CHRONIC

Cell Phone Radiation: CDMA

Time Report Requested: 13:31:21

Route: Whole Body Exposure

CAS Number: CELLPRADCDMA

First Dose M/F: 09/16/12 / 09/16/12

Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS FEMALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|-----------------------------------|------------------|------------------|------------------|------------------|
| Maxilla, Fracture | 1 | | | |
| Skeletal Muscle | (90) | (90) | (90) | (90) |
| Degeneration | 3 [1.0] | 7 [1.3] | 10 [1.4] | 2 [1.0] |
| Diaphragm, Hernia | | | | 1 [3.0] |

NERVOUS SYSTEM

| | | | | |
|---|----------|----------|----------|----------|
| Brain | (90) | (90) | (90) | (90) |
| Compression | 26 [1.8] | 31 [1.8] | 16 [1.9] | 20 [1.4] |
| Congestion | 1 [1.0] | | | |
| Cyst | | 1 | | |
| Edema | 2 [1.5] | 1 [2.0] | | |
| Hemorrhage | | 1 [1.0] | | |
| Mineral | | 1 [1.0] | 1 [1.0] | |
| Pigment | | | 1 [1.0] | |
| Cerebrum, Degeneration | | | 1 [1.0] | |
| Choroid Plexus, Mineral | | 1 [1.0] | | |
| Glial Cell, Hyperplasia | | | 1 [2.0] | 1 [2.0] |
| Meninges, Hyperplasia | 1 [2.0] | | 1 [1.0] | |
| Meninges, Hyperplasia, Granular Cell | 1 [3.0] | | | 1 [4.0] |
| Meninges, Mineral | | | 1 [1.0] | |
| Neuron, Necrosis | | 1 [1.0] | | |
| Pineal Gland, Infiltration Cellular, Mononuclear Cell | | 1 [1.0] | | |
| Pineal Gland, Mineral | 1 [1.0] | | | |
| Pineal Gland, Vacuolation, Cytoplasmic | 1 [1.0] | | 2 [1.0] | |
| Nerve Trigeminal | (84) | (84) | (85) | (84) |
| Degeneration | 64 [2.0] | 70 [2.1] | 64 [2.1] | 72 [2.1] |
| Gliosis | | | 1 [3.0] | |
| Peripheral Nerve, Sciatic | (90) | (90) | (90) | (90) |
| Degeneration | 80 [1.5] | 83 [1.6] | 83 [1.7] | 89 [1.7] |
| Infiltration Cellular, Mixed Cell | 1 [1.0] | | | |
| Peripheral Nerve, Tibial | (90) | (90) | (89) | (89) |
| Degeneration | 77 [1.5] | 77 [1.7] | 83 [1.7] | 86 [1.7] |
| Spinal Cord, Cervical | (90) | (90) | (90) | (90) |

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Species/Strain: RATS/HSD

Lab: IIT

| Harlan Sprague Dawley RATS FEMALE | 0.0W/kg(CDMA)chr | 1.5W/kg(CDMA)chr | 3.0W/kg(CDMA)chr | 6.0W/kg(CDMA)chr |
|-----------------------------------|------------------|------------------|------------------|------------------|
| Degeneration | 24 [1.1] | 29 [1.0] | 22 [1.0] | 35 [1.0] |
| Spinal Cord, Lumbar | (90) | (90) | (89) | (90) |
| Degeneration | 10 [1.1] | 11 [1.0] | 15 [1.3] | 12 [1.3] |
| Nerve, Degeneration | 74 [2.1] | 77 [2.0] | 77 [2.0] | 80 [2.0] |
| Spinal Cord, Thoracic | (90) | (90) | (90) | (90) |
| Degeneration | 59 [1.7] | 64 [1.7] | 59 [1.5] | 70 [1.8] |
| Trigeminal Ganglion | (81) | (77) | (81) | (75) |
| Degeneration | 33 [1.1] | 21 [1.0] | 22 [1.0] | 28 [1.0] |

RESPIRATORY SYSTEM

| | | | | |
|---|----------|----------|----------|----------|
| Lung | (90) | (90) | (90) | (90) |
| Congestion | 3 [2.0] | 12 [1.8] | 9 [1.6] | 5 [1.8] |
| Foreign Body | | 1 | | 1 |
| Hemorrhage | 1 [1.0] | 6 [1.2] | | 1 [2.0] |
| Inflammation, Suppurative | 2 [1.0] | | | 1 [2.0] |
| Inflammation, Granulomatous | 1 [1.0] | 5 [1.2] | 1 [1.0] | 2 [1.0] |
| Inflammation, Chronic Active | 6 [1.0] | 6 [1.2] | 6 [1.0] | 11 [1.1] |
| Alveolar Epithelium, Hyperplasia | | 1 [1.0] | | |
| Alveolar Epithelium, Metaplasia, Squamous | | 1 [1.0] | | 2 [4.0] |
| Alveolus, Infiltration Cellular, Histiocyte | 71 [1.6] | 77 [1.6] | 84 [1.5] | 81 [1.8] |
| Artery, Inflammation, Chronic Active | 1 [2.0] | | | |
| Artery, Muscularis, Hyperplasia | | | | 1 [2.0] |
| Bronchus, Hyperplasia | | 1 [3.0] | | |
| Epithelium Alveolus, Hyperplasia | 2 [1.5] | 2 [1.5] | 3 [2.7] | 1 [1.0] |
| Pleura, Inflammation, Acute | | | 1 [1.0] | |
| Nose | (90) | (89) | (90) | (89) |
| Foreign Body | | 1 | 1 | 2 |
| Inflammation, Suppurative | 1 [1.0] | 3 [1.3] | 1 [2.0] | 3 [1.0] |
| Inflammation, Acute | | 1 [1.0] | | |
| Inflammation, Chronic Active | | 1 [1.0] | | |
| Nerve, Degeneration | | 1 [3.0] | | |
| Olfactory Epithelium, Accumulation, Hyaline Droplet | 89 [2.6] | 89 [2.3] | 86 [2.3] | 86 [2.2] |
| Olfactory Epithelium, Hyperplasia | | | 1 [1.0] | |

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|---|------------------|------------------|------------------|------------------|
| Olfactory Epithelium, Metaplasia, Respiratory | 1 [1.0] | | | 2 [2.0] |
| Olfactory Epithelium, Metaplasia, Squamous | | 1 [1.0] | | |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | 12 [1.1] | 19 [1.1] | 22 [1.0] | 11 [1.0] |
| Respiratory Epithelium, Hyperplasia | | 1 [2.0] | | 3 [2.0] |
| Respiratory Epithelium, Metaplasia, Squamous | | | | 1 [1.0] |
| Trachea | (89) | (88) | (89) | (89) |
| Inflammation, Chronic Active | 1 [1.0] | 1 [1.0] | | |
| Epithelium, Hyperplasia | | 1 [2.0] | | |
| Epithelium, Metaplasia, Squamous | | 1 [2.0] | | |
| Glands, Cyst | 1 | 1 | | 2 |

SPECIAL SENSES SYSTEM

| | | | | |
|---------------------------------------|----------|----------|----------|----------|
| Ear | (0) | (0) | (1) | (1) |
| Eye | (88) | (86) | (88) | (86) |
| Anterior Chamber, Exudate | | 1 [2.0] | | |
| Anterior Chamber, Inflammation, Acute | | | 1 [2.0] | 2 [1.0] |
| Anterior Chamber, Iris, Synechia | | 1 [4.0] | | |
| Choroid, Inflammation, Chronic Active | | | 1 [1.0] | |
| Cornea, Fibrosis | | 1 [3.0] | | |
| Cornea, Inflammation, Acute | 1 [1.0] | 2 [1.0] | 1 [2.0] | 2 [2.0] |
| Cornea, Inflammation, Chronic Active | | 1 [1.0] | | |
| Cornea, Neovascularization | | 1 [3.0] | | |
| Cornea, Ulcer | | | | 1 [2.0] |
| Cornea, Epithelium, Hyperplasia | 1 [1.0] | 2 [1.0] | | 1 [1.0] |
| Lens, Cataract | 1 [2.0] | 3 [2.0] | | |
| Retina, Atrophy | 18 [1.0] | 17 [1.0] | 18 [1.2] | 18 [1.1] |
| Retina, Dysplasia | 1 [1.0] | 1 [2.0] | 1 [2.0] | 3 [2.0] |
| Harderian Gland | (90) | (90) | (90) | (90) |
| Atrophy | 13 [1.0] | 15 [1.1] | 16 [1.1] | 17 [1.1] |
| Cyst | | | | 1 |
| Hyperplasia | | | | 1 [1.0] |
| Hypertrophy | | | | 1 [2.0] |
| Infiltration Cellular, Lymphocyte | 2 [1.0] | | | 1 [1.0] |

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|-----------------------------------|------------------|------------------|------------------|------------------|
| Inflammation, Granulomatous | 7 [1.0] | 6 [1.0] | 4 [1.0] | 9 [1.0] |
| Inflammation, Chronic | 7 [1.3] | 1 [1.0] | 1 [1.0] | 2 [1.0] |
| Inflammation, Chronic Active | 1 [1.0] | 4 [1.0] | 2 [1.0] | |

URINARY SYSTEM

| | | | | |
|--------------------------------------|----------|----------|----------|----------|
| Kidney | (90) | (90) | (90) | (89) |
| Inflammation, Acute | 1 [1.0] | | | |
| Nephropathy, Chronic Progressive | 74 [1.2] | 76 [1.3] | 76 [1.2] | 65 [1.1] |
| Artery, Inflammation, Chronic Active | 1 [2.0] | | | |
| Pelvis, Dilation | 3 [2.3] | | 2 [2.0] | |
| Pelvis, Inflammation, Suppurative | | 2 [1.0] | | |
| Pelvis, Mineral | | | | 1 [1.0] |
| Pelvis, Urothelium, Hyperplasia | | 1 [2.0] | | |
| Renal Tubule, Cyst | 3 | 2 | | |
| Renal Tubule, Hyperplasia | | | 1 [3.0] | |
| Renal Tubule, Necrosis | | 1 [2.0] | | |
| Urinary Bladder | (88) | (88) | (90) | (90) |
| Dilation | 1 [2.0] | | | |
| Edema | | 3 [2.3] | | |
| Fibrosis | | | 1 [2.0] | |
| Hemorrhage | | 1 [1.0] | 1 [2.0] | |
| Infiltration Cellular, Histiocyte | | 1 [2.0] | 1 [3.0] | |
| Inflammation, Acute | 3 [2.3] | 2 [1.0] | | |
| Inflammation, Chronic Active | | 1 [1.0] | | |
| Necrosis | 1 [3.0] | | | |
| Artery, Inflammation, Chronic Active | | 1 [3.0] | | |
| Urothelium, Hyperplasia | 1 [2.0] | | | |

*** END OF REPORT ***

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