

**Experiment Number:** 20105 - 56  
**Test Type:** CHRONIC  
**Route:** Whole Body Exposure  
**Species/Strain:** RATS/HSD

**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**

Cell Phone Radiation: CDMA  
**CAS Number:** CELLPRADCDMA

**Date Report Requested:** 01/02/2018  
**Time Report Requested:** 13:31:50  
**First Dose M/F:** 09/16/12 / 09/16/12  
**Lab:** IIT

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

**NTP Study Number:** C20105B  
**Lock Date:** 12/29/2015  
**Cage Range:** ALL  
**Date Range:** ALL  
**Reasons For Removal:** 25017 SSAC  
**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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**P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)**  
 Cell Phone Radiation: CDMA  
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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
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### Disposition Summary

<b>Animals Initially In Study</b>	<b>105</b>	<b>105</b>	<b>105</b>	<b>105</b>
<b>Scheduled Sacrifice</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>
<b>Early Deaths</b>				
<b>Survivors</b>				
<b>Animals Examined Microscopically</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

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### ALIMENTARY SYSTEM

Esophagus	(10)	(10)	(9)	(10)
Intestine Large, Cecum	(10)	(10)	(9)	(10)
Intestine Large, Colon	(10)	(10)	(9)	(10)
Intestine Large, Rectum	(10)	(10)	(10)	(10)
Lymphoid Tissue, Hyperplasia	1 (10%)	1 (10%)		1 (10%)
Intestine Small, Duodenum	(10)	(10)	(10)	(10)
Intestine Small, Ileum	(10)	(10)	(9)	(10)
Intestine Small, Jejunum	(10)	(10)	(10)	(10)
Liver	(10)	(10)	(10)	(10)
Hepatodiaphragmatic Nodule			1 (10%)	
Infiltration Cellular, Mixed Cell	1 (10%)	1 (10%)	1 (10%)	3 (30%)
Hepatocyte, Necrosis			1 (10%)	
Pancreas	(10)	(10)	(10)	(10)
Salivary Glands	(10)	(10)	(9)	(10)
Stomach, Forestomach	(10)	(10)	(10)	(10)
Stomach, Glandular	(10)	(10)	(10)	(10)

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### CARDIOVASCULAR SYSTEM

Aorta	(10)	(10)	(10)	(10)
Heart	(10)	(10)	(10)	(10)
Cardiomyopathy	2 (20%)		3 (30%)	6 (60%)
Artery, Inflammation, Chronic Active		1 (10%)	1 (10%)	
Ventricle Right, Cardiomyopathy	1 (10%)	5 (50%)	4 (40%)	4 (40%)

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

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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

ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(10)	(10)	(10)
Adrenal Medulla	(10)	(10)	(10)	(10)
Islets, Pancreatic	(10)	(10)	(10)	(10)
Parathyroid Gland	(9)	(9)	(9)	(10)
Pituitary Gland	(10)	(10)	(10)	(10)
Pars Intermedia, Cyst		1 (10%)		2 (20%)
Rathke's Cleft, Cyst		1 (10%)	1 (10%)	
Thyroid Gland	(10)	(10)	(9)	(10)

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

Epididymis	(10)	(10)	(10)	(10)
Granuloma Sperm			1 (10%)	
Hypospermia				1 (10%)
Preputial Gland	(10)	(10)	(10)	(10)
Inflammation, Chronic Active	7 (70%)	3 (30%)	6 (60%)	3 (30%)
Prostate	(10)	(10)	(10)	(10)
Inflammation, Chronic Active				1 (10%)
Seminal Vesicle	(10)	(10)	(10)	(10)
Testis	(10)	(10)	(10)	(10)
Germ Cell, Degeneration				1 (10%)

HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(10)	(9)	(10)
Lymph Node	(0)	(0)	(1)	(0)
Inguinal, Pigment			1 (100%)	
Lymph Node, Mandibular	(10)	(10)	(9)	(10)

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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	2 (20%)	1 (10%)		1 (10%)
Lymph Node, Mesenteric	(10)	(10)	(9)	(10)
Hemorrhage				1 (10%)
Spleen	(10)	(10)	(9)	(10)
Thymus	(10)	(10)	(10)	(10)
Hemorrhage	5 (50%)	3 (30%)	4 (40%)	2 (20%)

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INTEGUMENTARY SYSTEM

Mammary Gland	(10)	(9)	(10)	(9)
Skin	(10)	(10)	(10)	(10)

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MUSCULOSKELETAL SYSTEM

Bone	(10)	(10)	(9)	(10)
Skeletal Muscle	(10)	(10)	(9)	(10)

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NERVOUS SYSTEM

Brain	(10)	(10)	(10)	(10)
Nerve Trigeminal	(10)	(10)	(10)	(10)
Peripheral Nerve, Sciatic	(10)	(10)	(9)	(10)
Peripheral Nerve, Tibial	(10)	(10)	(9)	(10)
Spinal Cord, Cervical	(10)	(10)	(10)	(10)
Spinal Cord, Lumbar	(10)	(10)	(10)	(10)
Spinal Cord, Thoracic	(10)	(10)	(10)	(10)
Trigeminal Ganglion	(10)	(9)	(10)	(10)

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RESPIRATORY SYSTEM

Lung	(10)	(10)	(10)	(10)
Congestion		1 (10%)		1 (10%)
Inflammation, Chronic Active	1 (10%)		1 (10%)	1 (10%)

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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
Nose	(10)	(10)	(10)	(10)
Trachea	(10)	(10)	(9)	(10)
<hr/>				
SPECIAL SENSES SYSTEM				
Eye	(10)	(10)	(10)	(10)
Retina, Developmental Malformation		1 (10%)		
Harderian Gland	(10)	(10)	(10)	(10)
Infiltration Cellular, Lymphocyte		1 (10%)		
Inflammation, Chronic Active		1 (10%)	3 (30%)	1 (10%)
<hr/>				
URINARY SYSTEM				
Kidney	(10)	(10)	(10)	(10)
Congestion			2 (20%)	
Nephropathy, Chronic Progressive	9 (90%)	7 (70%)	8 (80%)	9 (90%)
Pelvis, Dilation				1 (10%)
Urinary Bladder	(10)	(10)	(10)	(10)

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

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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
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## Disposition Summary

<b>Animals Initially In Study</b>	<b>105</b>	<b>105</b>	<b>105</b>	<b>105</b>
<b>Scheduled Sacrifice</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>
<b>Early Deaths</b>				
<b>Survivors</b>				
<b>Animals Examined Microscopically</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>

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## ALIMENTARY SYSTEM

Esophagus	(10)	(10)	(10)	(10)
Intestine Large, Cecum	(10)	(10)	(10)	(10)
Intestine Large, Colon	(10)	(10)	(10)	(10)
Inflammation, Chronic Active				1 (10%)
Intestine Large, Rectum	(10)	(10)	(10)	(10)
Lymphoid Tissue, Hyperplasia	1 (10%)		2 (20%)	1 (10%)
Intestine Small, Duodenum	(10)	(10)	(10)	(10)
Intestine Small, Ileum	(10)	(10)	(10)	(10)
Intestine Small, Jejunum	(10)	(10)	(10)	(10)
Liver	(10)	(10)	(10)	(10)
Infiltration Cellular, Mixed Cell	1 (10%)	1 (10%)		2 (20%)
Inflammation, Chronic Active				1 (10%)
Pancreas	(10)	(10)	(10)	(10)
Inflammation, Chronic Active				1 (10%)
Salivary Glands	(10)	(10)	(10)	(10)
Inflammation, Chronic Active				1 (10%)
Stomach, Forestomach	(10)	(10)	(10)	(10)
Stomach, Glandular	(10)	(10)	(10)	(10)

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## CARDIOVASCULAR SYSTEM

Aorta	(10)	(10)	(10)	(10)
Inflammation, Chronic Active				1 (10%)
Heart	(10)	(10)	(10)	(10)
Cardiomyopathy			2 (20%)	2 (20%)

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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
Endocardium, Inflammation, Chronic Active				1 (10%)
Ventricle Right, Cardiomyopathy			1 (10%)	1 (10%)

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ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(10)	(10)	(10)
Adrenal Medulla	(10)	(10)	(10)	(10)
Islets, Pancreatic	(10)	(10)	(10)	(10)
Parathyroid Gland	(10)	(10)	(9)	(9)
Pituitary Gland	(10)	(10)	(10)	(10)
Pars Distalis, Cyst	2 (20%)			
Pars Intermedia, Cyst	1 (10%)		2 (20%)	
Rathke's Cleft, Cyst		1 (10%)		
Thyroid Gland	(10)	(10)	(10)	(10)
Ectopic Thymus			1 (10%)	

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GENERAL BODY SYSTEM

None

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GENITAL SYSTEM

Clitoral Gland	(10)	(10)	(10)	(10)
Inflammation, Chronic Active	4 (40%)	4 (40%)	4 (40%)	2 (20%)
Ovary	(10)	(10)	(10)	(10)
Follicle, Cyst	1 (10%)		1 (10%)	
Uterus	(10)	(10)	(10)	(10)

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HEMATOPOIETIC SYSTEM

Bone Marrow	(10)	(10)	(10)	(10)
Lymph Node	(0)	(0)	(1)	(0)
Pigment			1 (100%)	

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**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**

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Lymph Node, Mandibular

(10)

(10)

(10)

(9)

Lymph Node, Mesenteric

(10)

(10)

(10)

(10)

Spleen

(10)

(10)

(10)

(10)

Extramedullary Hematopoiesis

1 (10%)

Thymus

(10)

(10)

(10)

(10)

Hemorrhage

1 (10%)

2 (20%)

1 (10%)

Hyperplasia, Epithelial

1 (10%)

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**INTEGUMENTARY SYSTEM**

Mammary Gland

(10)

(10)

(10)

(10)

Skin

(10)

(10)

(10)

(10)

Inflammation, Chronic Active

1 (10%)

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**MUSCULOSKELETAL SYSTEM**

Bone

(10)

(10)

(10)

(10)

Skeletal Muscle

(10)

(10)

(10)

(10)

Inflammation, Chronic Active

1 (10%)

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**NERVOUS SYSTEM**

Brain

(10)

(10)

(10)

(10)

Nerve Trigeminal

(10)

(10)

(10)

(10)

Peripheral Nerve, Sciatic

(10)

(10)

(10)

(10)

Peripheral Nerve, Tibial

(10)

(10)

(10)

(10)

Spinal Cord, Cervical

(10)

(10)

(10)

(10)

Spinal Cord, Lumbar

(10)

(10)

(10)

(10)

Spinal Cord, Thoracic

(10)

(10)

(10)

(10)

Trigeminal Ganglion

(9)

(9)

(10)

(9)

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**RESPIRATORY SYSTEM**

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Lung	(10)	(10)	(10)	(10)
Congestion				1 (10%)
Alveolus, Infiltration Cellular, Histiocyte	2 (20%)			
Nose	(10)	(10)	(10)	(10)
Trachea	(10)	(10)	(10)	(10)
<hr/>				
SPECIAL SENSES SYSTEM				
Eye	(10)	(10)	(10)	(10)
Conjunctiva, Inflammation, Chronic Active				1 (10%)
Harderian Gland	(10)	(10)	(10)	(10)
Infiltration Cellular, Lymphocyte	1 (10%)			
Inflammation, Chronic				1 (10%)
<hr/>				
URINARY SYSTEM				
Kidney	(10)	(10)	(10)	(10)
Infiltration Cellular, Mixed Cell				1 (10%)
Inflammation, Chronic Active				1 (10%)
Nephropathy, Chronic Progressive	3 (30%)	3 (30%)	4 (40%)	4 (40%)
Urinary Bladder	(10)	(10)	(10)	(10)

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

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