

**Experiment Number:** 08010 - 01

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** RATS/Wistar Han

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

2,3-Pentanedione

**CAS Number:** 600-14-6

**Date Report Requested:** 04/29/2016

**Time Report Requested:** 09:34:07

**First Dose M/F:** 09/13/10 / 09/14/10

**Lab:** BNW

F1\_Rev.1 \_RE

**NTP Study Number:** C08010

**Lock Date:** 07/12/2011

**Cage Range:** ALL

**Date Range:** ALL

**Reasons For Removal:** ALL

**Removal Date Range:** ALL

**Treatment Groups:** Include ALL

**Study Gender:** Both

**TDMSE Version:** 3.0.2.3\_002

**PWG Approval Date:** NONE

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Wistar Han RATS MALE	Control	6.25 ppm	12.5 ppm	25 ppm	50 ppm	100 ppm
<b>Disposition Summary</b>						
Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Survivors						
Terminal Sacrifice	10	10	10	10	10	10
Animals Examined Microscopically	10	10	10	10	10	10
<b>ALIMENTARY SYSTEM</b>						
Esophagus	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(0)	(10)
Epithelium, Degeneration	1 (10%)					
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(0)	(10)
Liver	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Mixed Cell	2 (20%)					
Pancreas	(10)	(0)	(0)	(0)	(0)	(10)
Atrophy	1 (10%)					2 (20%)
Inflammation, Chronic Active	1 (10%)					
Acinus, Apoptosis	1 (10%)					1 (10%)
Acinus, Eosinophilic Focus	1 (10%)					
Salivary Glands	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(0)	(10)
Stomach, Glandular	(10)	(0)	(0)	(0)	(0)	(10)
Tooth	(2)	(0)	(1)	(0)	(0)	(0)
Dysplasia	2 (100%)					
Peridental Tissue, Abscess			1 (100%)			
<b>CARDIOVASCULAR SYSTEM</b>						
Blood Vessel	(10)	(0)	(0)	(0)	(0)	(10)

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Wistar Han RATS MALE	Control	6.25 ppm	12.5 ppm	25 ppm	50 ppm	100 ppm
Heart Cardiomyopathy	(10) 1 (10%)	(0)	(0)	(0)	(0)	(10) 4 (40%)

## ENDOCRINE SYSTEM

Adrenal Cortex	(10)	(0)	(0)	(0)	(1)	(10)
Accessory Adrenal Cortical Nodule	1 (10%)					1 (10%)
Hypertrophy						1 (10%)
Inflammation, Lymphoid					1 (100%)	
Adrenal Medulla	(10)	(0)	(0)	(0)	(0)	(10)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(10)	(0)	(0)	(0)	(0)	(9)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Cyst	1 (10%)					
Pars Distalis, Cyst	1 (10%)					
Pars Distalis, Hyperplasia						1 (10%)
Thyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Mononuclear Cell	1 (10%)					
Inflammation, Chronic	1 (10%)					
Ultimobranchial Cyst	3 (30%)					1 (10%)

## GENERAL BODY SYSTEM

None

## GENITAL SYSTEM

Epididymis	(10)	(0)	(0)	(0)	(0)	(10)
Preputial Gland	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic Active	7 (70%)					7 (70%)
Prostate	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic Active	3 (30%)					2 (20%)
Seminal Vesicle	(10)	(0)	(0)	(0)	(0)	(10)
Testes	(10)	(0)	(0)	(0)	(0)	(10)

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Wistar Han RATS MALE	Control	6.25 ppm	12.5 ppm	25 ppm	50 ppm	100 ppm
Edema	6 (60%)					7 (70%)
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Bronchial	(10)	(0)	(0)	(0)	(0)	(9)
Hyperplasia, Plasma Cell						1 (11%)
Pigmentation						1 (11%)
Lymph Node, Mandibular	(6)	(0)	(0)	(0)	(0)	(9)
Hyperplasia, Plasma Cell						2 (22%)
Lymph Node, Mediastinal	(9)	(0)	(0)	(0)	(0)	(10)
Pigmentation						4 (40%)
Lymph Node, Mesenteric	(10)	(0)	(1) 1 (100%)	(0)	(0)	(10)
Hemorrhage						
Hyperplasia, Histiocytic	3 (30%)					6 (60%)
Spleen	(10)	(0)	(0)	(0)	(0)	(10)
Pigmentation	6 (60%)					6 (60%)
Thymus	(10)	(0)	(0)	(0)	(0)	(10)
<b>INTEGUMENTARY SYSTEM</b>						
Mammary Gland	(2)	(0)	(0)	(0)	(0)	(3)
Hyperplasia						1 (33%)
Skin	(10)	(1) 1 (100%)	(0)	(0)	(0)	(10)
Inflammation, Acute						1 (10%)
<b>MUSCULOSKELETAL SYSTEM</b>						
Bone	(10)	(0)	(0)	(0)	(0)	(10)
<b>NERVOUS SYSTEM</b>						
Brain	(10)	(0)	(0)	(0)	(0)	(10)

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Wistar Han RATS MALE	Control	6.25 ppm	12.5 ppm	25 ppm	50 ppm	100 ppm
<b>RESPIRATORY SYSTEM</b>						
Larynx	(10)	(10)	(10)	(10)	(10)	(10)
Inflammation, Suppurative					2 (20%)	
Inflammation, Chronic Active	1 (10%)					4 (40%)
Respiratory Epithelium, Hyperplasia		1 (10%)		1 (10%)	7 (70%)	3 (30%)
Respiratory Epithelium, Metaplasia, Squamous	1 (10%)	1 (10%)	1 (10%)	5 (50%)	10 (100%)	10 (100%)
Respiratory Epithelium, Necrosis						2 (20%)
Respiratory Epithelium, Regeneration					1 (10%)	2 (20%)
Respiratory Epithelium, Ulcer						1 (10%)
Squamous Epithelium, Hyperplasia						7 (70%)
Lung	(10)	(10)	(10)	(10)	(10)	(10)
Fibrosis, Focal						1 (10%)
Infiltration Cellular, Histiocyte	5 (50%)	3 (30%)		2 (20%)	3 (30%)	9 (90%)
Inflammation, Eosinophil	3 (30%)	3 (30%)	1 (10%)	5 (50%)	3 (30%)	10 (100%)
Inflammation, Chronic Active				1 (10%)		
Metaplasia, Osseous	1 (10%)	2 (20%)	1 (10%)	3 (30%)		
Mineralization, Focal					1 (10%)	
Alveolar Epithelium, Hyperplasia	1 (10%)					
Alveolar Epithelium, Hyperplasia, Focal	1 (10%)					
Alveolus, Infiltration Cellular, Polymorphonuclear						1 (10%)
Bronchiole, Epithelium, Hyperplasia					3 (30%)	10 (100%)
Bronchus, Epithelium, Hyperplasia						5 (50%)
Bronchus, Epithelium, Metaplasia, Squamous						3 (30%)
Bronchus, Epithelium, Regeneration					1 (10%)	9 (90%)
Bronchus, Epithelium, Goblet Cell, Metaplasia						1 (10%)
Perivascular, Infiltration Cellular, Mononuclear Cell	2 (20%)	1 (10%)				
Nose	(10)	(10)	(10)	(10)	(10)	(10)
Foreign Body						1 (10%)
Hyperplasia, Lymphoid		1 (10%)	1 (10%)	1 (10%)	7 (70%)	5 (50%)
Inflammation, Suppurative				2 (20%)	10 (100%)	10 (100%)
Lamina Propria, Nasopharyngeal Duct, Mineralization	1 (10%)					

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Wistar Han RATS MALE	Control	6.25 ppm	12.5 ppm	25 ppm	50 ppm	100 ppm
Nasolacrimal Duct, Inflammation, Chronic Active		1 (10%)				
Nasopharyngeal Duct, Foreign Body						1 (10%)
Nasopharyngeal Duct, Mineralization	1 (10%)					
Olfactory Epithelium, Accumulation, Hyaline Droplet	2 (20%)			1 (10%)		
Olfactory Epithelium, Atrophy	1 (10%)	1 (10%)		4 (40%)	10 (100%)	10 (100%)
Olfactory Epithelium, Degeneration	2 (20%)			2 (20%)	10 (100%)	3 (30%)
Olfactory Epithelium, Metaplasia, Respiratory	2 (20%)		2 (20%)	1 (10%)	8 (80%)	10 (100%)
Olfactory Epithelium, Squamous Metaplasia						2 (20%)
Respiratory Epithelium, Degeneration	1 (10%)					
Respiratory Epithelium, Hyperplasia		1 (10%)	2 (20%)	9 (90%)	10 (100%)	10 (100%)
Respiratory Epithelium, Metaplasia, Squamous			1 (10%)		10 (100%)	10 (100%)
Respiratory Epithelium, Necrosis					2 (20%)	10 (100%)
Respiratory Epithelium, Regeneration						10 (100%)
Turbinate, Atrophy					2 (20%)	10 (100%)
Vomeronasal Organ, Inflammation, Suppurative	1 (10%)					
Trachea	(10)	(10)	(10)	(10)	(10)	(10)
Inflammation, Suppurative					1 (10%)	
Inflammation, Acute				1 (10%)		3 (30%)
Epithelium, Hyperplasia						8 (80%)
Epithelium, Metaplasia, Squamous						3 (30%)
Epithelium, Necrosis						1 (10%)
Epithelium, Regeneration		1 (10%)	1 (10%)		8 (80%)	10 (100%)

## SPECIAL SENSES SYSTEM

Eye	(10)	(10)	(9)	(10)	(10)	(10)
Phthisis Bulbi					1 (10%)	
Anterior Chamber, Inflammation, Acute					2 (20%)	
Ciliary Body, Inflammation, Acute					3 (30%)	
Conjunctiva, Inflammation, Acute			2 (22%)		1 (10%)	
Cornea, Inflammation, Acute					3 (30%)	3 (30%)
Cornea, Neovascularization						2 (20%)
Cornea, Ulcer					1 (10%)	

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Cornea, Epithelium, Hyperplasia						1 (10%)
Cornea, Epithelium, Vacuolation						2 (20%)
Iris, Inflammation, Acute					2 (20%)	
Lens, Cataract		1 (10%)				
Retina, Atrophy		1 (10%)			1 (10%)	
Retina, Dysplasia				2 (20%)		1 (10%)
Harderian Gland	(10)	(0)	(0)	(0)	(0)	(10)
Concretion	5 (50%)					4 (40%)
Hyperplasia	3 (30%)					1 (10%)
Inflammation, Chronic Active	3 (30%)					1 (10%)

## URINARY SYSTEM

Kidney	(10)	(0)	(0)	(0)	(1)	(10)
Infiltration Cellular, Mononuclear Cell	1 (10%)					1 (10%)
Nephropathy	3 (30%)					2 (20%)
Cortex, Cyst	1 (10%)					
Pelvis, Dilatation				1 (100%)		2 (20%)
Pelvis, Inflammation, Chronic Active						1 (10%)
Pelvis, Transitional Epithelium, Hyperplasia						1 (10%)
Renal Tubule, Casts Protein	1 (10%)					
Renal Tubule, Hyperplasia	1 (10%)					
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

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

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Wistar Han RATS FEMALE	Control	6.25 ppm	12.5 ppm	25 ppm	50 ppm	100 ppm
<b>Disposition Summary</b>						
Animals Initially In Study	10	10	10	10	10	10
Early Deaths						
Survivors						
Terminal Sacrifice	10	10	10	10	10	10
Animals Examined Microscopically	10	10	10	10	10	10
<b>ALIMENTARY SYSTEM</b>						
Esophagus	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Cecum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Colon	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Large, Rectum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Duodenum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Ileum	(10)	(0)	(0)	(0)	(0)	(10)
Intestine Small, Jejunum	(10)	(0)	(0)	(0)	(0)	(10)
Liver	(10)	(0)	(0)	(0)	(0)	(10)
Infiltration Cellular, Mixed Cell						2 (20%)
Infiltration Cellular, Mononuclear Cell	2 (20%)					
Mesentery	(0)	(0)	(0)	(0)	(1)	(0)
Fat, Necrosis					1 (100%)	
Pancreas	(10)	(1)	(0)	(0)	(0)	(10)
Salivary Glands	(10)	(0)	(0)	(0)	(0)	(10)
Parotid Gland, Atrophy						1 (10%)
Stomach, Forestomach	(10)	(0)	(0)	(0)	(0)	(10)
Epithelium, Hyperplasia						1 (10%)
Stomach, Glandular	(10)	(0)	(0)	(0)	(0)	(10)
<b>CARDIOVASCULAR SYSTEM</b>						
Blood Vessel	(10)	(0)	(0)	(0)	(0)	(10)
Heart	(10)	(0)	(0)	(0)	(0)	(10)
Cardiomyopathy						1 (10%)

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<b>ENDOCRINE SYSTEM</b>						
Adrenal Cortex	(10)	(0)	(0)	(0)	(0)	(10)
Accessory Adrenal Cortical Nodule	2 (20%)					1 (10%)
Accessory Adrenal Cortical Nodule, Multifocal	1 (10%)					
Hypertrophy	1 (10%)					
Adrenal Medulla	(10)	(0)	(0)	(0)	(0)	(9)
Islets, Pancreatic	(10)	(0)	(0)	(0)	(0)	(10)
Parathyroid Gland	(8)	(0)	(0)	(0)	(0)	(9)
Pituitary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Cyst						1 (10%)
Thyroid Gland	(10)	(0)	(0)	(0)	(0)	(10)
Ultimobranchial Cyst						4 (40%)
<b>GENERAL BODY SYSTEM</b>						
None						
<b>GENITAL SYSTEM</b>						
Clitoral Gland	(10)	(0)	(0)	(0)	(0)	(10)
Inflammation, Chronic Active	4 (40%)					5 (50%)
Duct, Ectasia	1 (10%)					
Ovary	(10)	(0)	(1)	(0)	(0)	(10)
Cyst	1 (10%)		1 (100%)			
Uterus	(10)	(0)	(0)	(0)	(0)	(10)
<b>HEMATOPOIETIC SYSTEM</b>						
Bone Marrow	(10)	(0)	(0)	(0)	(0)	(10)
Lymph Node, Bronchial	(8)	(0)	(0)	(0)	(0)	(10)
Hyperplasia, Plasma Cell						1 (10%)
Pigmentation	2 (25%)					2 (20%)
Lymph Node, Mandibular	(10)	(0)	(0)	(0)	(0)	(10)

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Hyperplasia, Plasma Cell	4 (40%)					2 (20%)
Lymph Node, Mediastinal	(9)	(0)	(0)	(0)	(0)	(9)
Hyperplasia, Plasma Cell						2 (22%)
Pigmentation	6 (67%)					4 (44%)
Lymph Node, Mesenteric	(10)	(0)	(0)	(0)	(0)	(10)
Hyperplasia, Histiocytic	2 (20%)					3 (30%)
Pigmentation	1 (10%)					
Spleen	(10)	(0)	(0)	(0)	(0)	(10)
Pigmentation	6 (60%)					6 (60%)
Thymus	(10)	(0)	(0)	(0)	(0)	(10)
Cyst	2 (20%)					1 (10%)
Ectopic Parathyroid Gland	1 (10%)					
Epithelial Cell, Hyperplasia						1 (10%)

## INTEGUMENTARY SYSTEM

Mammary Gland	(10)	(0)	(0)	(0)	(0)	(10)
Skin	(10)	(0)	(0)	(0)	(0)	(10)

## MUSCULOSKELETAL SYSTEM

Bone	(10)	(0)	(0)	(0)	(0)	(10)
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## NERVOUS SYSTEM

Brain	(10)	(0)	(0)	(0)	(0)	(10)
Ventricle, Dilatation	1 (10%)					

## RESPIRATORY SYSTEM

Larynx	(10)	(10)	(10)	(10)	(10)	(10)
Inflammation, Chronic Active			1 (10%)	1 (10%)		5 (50%)
Respiratory Epithelium, Hyperplasia					2 (20%)	1 (10%)

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Wistar Han RATS FEMALE	Control	6.25 ppm	12.5 ppm	25 ppm	50 ppm	100 ppm
Respiratory Epithelium, Metaplasia, Squamous				4 (40%)	10 (100%)	10 (100%)
Respiratory Epithelium, Necrosis					1 (10%)	1 (10%)
Respiratory Epithelium, Regeneration						1 (10%)
Respiratory Epithelium, Ulcer				1 (10%)		
Squamous Epithelium, Hyperplasia						9 (90%)
Squamous Epithelium, Necrosis						5 (50%)
Squamous Epithelium, Ulcer						4 (40%)
Lung	(10)	(10)	(10)	(10)	(10)	(10)
Fibrosis, Focal						2 (20%)
Infiltration Cellular, Histiocyte	8 (80%)	1 (10%)	3 (30%)	4 (40%)	6 (60%)	9 (90%)
Inflammation, Eosinophil	4 (40%)	3 (30%)	4 (40%)	3 (30%)	5 (50%)	10 (100%)
Metaplasia, Osseous					2 (20%)	
Mineralization, Focal						1 (10%)
Alveolar Epithelium, Hyperplasia			1 (10%)			
Alveolus, Infiltration Cellular, Polymorphonuclear						2 (20%)
Bronchiole, Epithelium, Hyperplasia						7 (70%)
Bronchus, Epithelium, Hyperplasia						4 (40%)
Bronchus, Epithelium, Regeneration						8 (80%)
Bronchus, Epithelium, Goblet Cell, Metaplasia						3 (30%)
Perivascular, Infiltration Cellular, Mononuclear Cell			1 (10%)			
Nose	(10)	(10)	(10)	(10)	(10)	(10)
Hyperplasia, Lymphoid				1 (10%)		3 (30%)
Inflammation, Suppurative					10 (100%)	10 (100%)
Olfactory Epithelium, Accumulation, Hyaline Droplet			1 (10%)			
Olfactory Epithelium, Atrophy	1 (10%)		1 (10%)	1 (10%)	10 (100%)	9 (90%)
Olfactory Epithelium, Degeneration		1 (10%)			4 (40%)	5 (50%)
Olfactory Epithelium, Metaplasia, Respiratory			1 (10%)	1 (10%)	8 (80%)	9 (90%)
Respiratory Epithelium, Hyperplasia	1 (10%)			3 (30%)	10 (100%)	10 (100%)
Respiratory Epithelium, Metaplasia, Squamous					10 (100%)	10 (100%)
Respiratory Epithelium, Necrosis					1 (10%)	10 (100%)
Respiratory Epithelium, Regeneration					3 (30%)	10 (100%)
Respiratory Epithelium, Ulcer						1 (10%)
Turbinate, Atrophy					2 (20%)	9 (90%)
Trachea	(10)	(10)	(9)	(10)	(10)	(10)

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

Experiment Number: 08010 - 01

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/Wistar Han

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

2,3-Pentanedione

CAS Number: 600-14-6

Date Report Requested: 04/29/2016

Time Report Requested: 09:34:07

First Dose M/F: 09/13/10 / 09/14/10

Lab: BNW

Wistar Han RATS FEMALE	Control	6.25 ppm	12.5 ppm	25 ppm	50 ppm	100 ppm
Inflammation, Suppurative						1 (10%)
Inflammation, Acute						2 (20%)
Epithelium, Hyperplasia				1 (10%)		4 (40%)
Epithelium, Metaplasia, Squamous						2 (20%)
Epithelium, Necrosis						2 (20%)
Epithelium, Regeneration		3 (30%)			7 (70%)	10 (100%)

## SPECIAL SENSES SYSTEM

Eye	(10)	(10)	(10)	(9)	(9)	(10)
Anterior Chamber, Inflammation, Acute				3 (33%)		
Bilateral, Retina, Dysplasia			1 (10%)			
Ciliary Body, Inflammation, Acute				5 (56%)		2 (20%)
Conjunctiva, Inflammation, Acute			1 (10%)		1 (11%)	
Cornea, Inflammation, Acute			1 (10%)		5 (56%)	6 (60%)
Cornea, Necrosis					1 (10%)	
Cornea, Neovascularization					1 (10%)	
Cornea, Ulcer					1 (10%)	
Cornea, Epithelium, Hyperplasia					1 (10%)	
Cornea, Epithelium, Vacuolation				1 (11%)		
Fat, Retrobulbar, Inflammation, Acute				1 (11%)		
Retina, Dysplasia				1 (11%)		
Retina, Pigmentation	1 (10%)			1 (11%)		
Sclera, Inflammation, Acute				2 (22%)		
Harderian Gland	(10)	(0)	(0)	(0)	(0)	(10)
Concretion	4 (40%)					3 (30%)
Hyperplasia	2 (20%)					1 (10%)
Inflammation, Chronic	1 (10%)					
Inflammation, Chronic Active						2 (20%)

## URINARY SYSTEM

Kidney	(10)	(0)	(1)	(0)	(0)	(10)
Renal Tubule, Hyperplasia	1 (10%)					
Urinary Bladder	(10)	(0)	(0)	(0)	(0)	(10)

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

**Experiment Number:** 08010 - 01

**Test Type:** 90-DAY

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** RATS/Wistar Han

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

2,3-Pentanedione

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Wistar Han RATS FEMALE

Control

6.25 ppm

12.5 ppm

25 ppm

50 ppm

100 ppm

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

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