

# NTP Historical Controls Report

## By Route and Vehicle

Wistar-Han RATS

August 2016

This report shows the tumor rates of control group animals from selected studies. The studies used are shown on the Study Summary page.

This report is broken up into sections based on the route and vehicle used to deliver the chemical. The Table of Contents on Page 3 shows the different Route/Vehicle combinations. To see the data from all routes and vehicles combined into one set, you must run the "All Routes" report.

The individual tumor rates shown on the data pages of the report relate to the Study Summary page as follows: the tumor rates are shown in the same order as the Study Summary page, except that they are grouped horizontally in sets of three, with the males in the first set of three and the females in the second set. For example if the study summary showed the studies like this:

Male M1 M2 M3 M4 M5 Female F1 F2 F3 F4 F5

the data would be shown as:

	Male			Female	
M1	M2	M3	F1	F2	F3
M4	M5		F4	F5	

Directly beneath the individual tumor rates on the data pages are the overall totals for that tumor/site combination. This includes the total tumors/animals, the overall mean (in parentheses), the mean of the study means, and the standard deviation of the study means.

Studies with no control animals of a particular gender are listed on the summary page with the Number of Animals shown as zero and the Start Date and Length of Study shown as "N/A". On the data pages there are blank spaces where tumor rates for these studies would normally be found, so that the male and female rates for the remaining studies can be easily compared.

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#### Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC

#### Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: CORN OIL

		-		Stu	dy Summary		
Laboratory Name	Study Number	Study Start Date	Length of Study in Days	Number of Animals Total and (#/Cage)	Number Surviving and (Mean Life Span)	Maximum Mean Weekly Body Weight	Chemical
					Male		
Southern Research Institute	052020903	08/26/08	729	49(3)	36(671)	673.4	Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]
Battelle Columbus Laboratory	052032003	07/25/07	727	50(3)	33(642)	662.9	Tetrabromobisphenol A
					Female		
Southern Research Institute	052020903	08/26/08	732	50(5)	37(678)	389.6	Pentabromodiphenyl Ether Mixture [DE-71 (Technical Grade)]
Battelle Columbus Laboratory	052032003	07/26/07	728	50(5)	34(678)	375.2	Tetrabromobisphenol A

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				logy Data Manageme nce for Selected Contr Route: GAVAGE Vehicle: CORN OI	ol Animal Groups	Page: 5 Report Date: 08/04/2016			
			Male				Female		
#All Organs: Benign Tumors		33/49 (67%)	20/50 (60%)			27/60 (7.40/)	29/60 (769/)		
Overall Incidence	Total	63/99 (63.64%)	30/50 (60%) Mean 63.67%	SD 5.2%	Total	37/50 (74%) 75/100 (75%)	38/50 (76%) Mean 75%	SD 1.41%	
#All Organs: Malignant Tumors									
Overall Incidence	Total	13/49 (27%) 21/99 (21.21%)	8/50 (16%) Mean 21.27%	SD 7.45%	Total	10/50 (20%) 20/100 (20%)	10/50 (20%) Mean 20%	SD 0%	
#All Organs: Malignant and Benign Tumo		36/49 (73%)	34/50 (68%)			40/50 (80%)	40/50 (80%)		
Overall Incidence	Total	70/99 (70.71%)	Mean 70.73%	SD 3.87%	Total	80/100 (80%)	Mean 80%	SD 0%	
#All Organs: Hemangioma		1/49 (2%)	1/50 (2%)			0/50 (0%)	0/50 (0%)		
Overall Incidence	Total	2/99 (2.02%)	Mean 2.02%	SD 0.03%	Total	0/100 (0%)	Mean 0%	SD 0%	
#All Organs: Hemangiosarcoma		8/49 (16%)	3/50 (6%)			2/50 (4%)	2/50 (4%)		
Overall Incidence	Total	11/99 (11.11%)	Mean 11.16%	SD 7.3%	Total	4/100 (4%)	Mean 4%	SD 0%	
#All Organs: Hemangiosarcoma or Hema		9/49 (18%)	4/50 (8%)			2/50 (4%)	2/50 (4%)		
Overall Incidence	Total	13/99 (13.13%)	4/30 (8%) Mean 13.18%	SD 7.33%	Total	4/100 (4%)	2/30 (4%) Mean 4%	SD 0%	

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC		Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: CORN OIL					Page: 6 Report Dat	<b>e:</b> 08/04/2016
			Male				Female	
#All Organs: Histiocytic Sarcoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
		. ,				· · ·		
#All Organs: Leukemia: Lymphocytic, M	onocytic, M	ononuclear, or Undifferer 1/49 (2%)	ntiated 1/50 (2%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	2/99 (2.02%)	Mean 2.02%	SD 0.03%	Total	0/100 (0%)	Mean 0%	SD 0%
#All Organs: Malignant Lymphoma: Hist	iocytic, Lym	phocytic, Mixed, NOS, or 0/49 (0%)	r Undifferentiated Cel 0/50 (0%)	I Туре		0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
≮All Organs: Mesothelioma: Benign, Mal			0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
≮All Organs: Mesothelioma: Malignant								
		0/49 (0%) 0/99 (0%)	0/50 (0%)		<b>T</b> . ( . )	0/50 (0%)	0/50 (0%)	
-		1/44 /1%	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
-	Total	0/00 (0/0)						
Overall Incidence #All Organs: Osteoma	Total	0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				logy Data Manageme nce for Selected Contr Route: GAVAGE Vehicle: CORN OI	ol Animal Groups	Page: 7 ups Report Date: 08/04/20			
			Male				Female		
#All Organs: Osteosarcoma									
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	1/50 (2%) 1/100 (1%)	0/50 (0%) Mean 1%	SD 1.41%	
#All Organs: Osteosarcoma or Osteoma									
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	1/50 (2%) 1/100 (1%)	0/50 (0%) Mean 1%	SD 1.41%	
Adrenal Cortex: Adenoma									
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	1/50 (2%) 2/100 (2%)	1/50 (2%) Mean 2%	SD 0%	
Adrenal Cortex: Carcinoma									
Overall Incidence	Total	1/49 (2%) 1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/50 (0%) 1/100 (1%)	1/50 (2%) Mean 1%	SD 1.41%	
Adrenal Medulla: Pheochromocytoma Benign									
Overall Incidence	Total	0/49 (0%) 0/98 (0%)	0/49 (0%) Mean 0%	SD 0%	Total	1/50 (2%) 3/99 (3.03%)	2/49 (4%) Mean 3.04%	SD 1.47%	
Adrenal Medulla: Pheochromocytoma Comple		0/49 (0%)	0/49 (0%)			1/50 (2%)	0/49 (0%)		
Overall Incidence	Total	0/49 (0%)	0/49 (0%) Mean 0%	SD 0%	Total	1/99 (1.01%)	0/49 (0%) Mean 1%	SD 1.41%	

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC		Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: CORN OIL					Page: 8 Report Da	<b>te:</b> 08/04/2016
			Male			Female		
Adrenal Medulla: Pheochromocytoma Maligna	ant	1/49 (2%)	0/49 (0%)			0/50 (0%)	0/49 (0%)	
Overall Incidence	Total	1/98 (1.02%)	Mean 1.02%	SD 1.44%	Total	0/99 (0%)	Mean 0%	SD 0%
Adrenal Medulla: Pheochromocytoma: Benigi	n, Complex	, Malignant, NOS 1/49 (2%)	0/49 (0%)			2/50 (4%)	2/49 (4%)	
Overall Incidence	Total	1/98 (1.02%)	Mean 1.02%	SD 1.44%	Total	4/99 (4.04%)	Mean 4.04%	SD 0.06%
#Blood Vessel: Hemangiosarcoma		0/49 (0%)	1/50 (2%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1%	SD 1.41%	Total	0/100 (0%)	Mean 0%	SD 0%
Bone Marrow: Hemangiosarcoma Dverall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
∕Bone: Osteoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
≇Bone: Osteosarcoma		0/49 (0%)	0/50 (0%)			1/50 (2%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	1/100 (1%)	Mean 1%	SD 1.41%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: CORN OIL					<b>te:</b> 08/04/2016
			Male				Female	
#Bone: Osteosarcoma or Osteoma		2/42 (224)	0/50 (00/)			1/50 (00/)	0/50 (00/)	
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	1/50 (2%) 1/100 (1%)	0/50 (0%) Mean 1%	SD 1.41%
#Bone: Sarcoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
Brain: Glioma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
Brain: Glioma Malignant							0/50 (00/.)	
Overall Incidence	Total	1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
Brain: Granular Cell Tumor Benign		1/49 (2%)				0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	2/99 (2.02%)	Mean 2.02%	SD 0.03%	Total	0/100 (0%)	Mean 0%	SD 0%
Brain: Granular Cell Tumor Maligna		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/49 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%)	0/50 (0%) Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: CORN OIL					<b>e:</b> 08/04/2016
			Male				Female	
*Brain: Meningioma Malignant								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
'Brain: Meningioma: Benign, Maligi								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
'Brain: Oligodendroglioma Benign		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
Brain: Oligodendroglioma, Glioma	, or Astrocy	<b>/toma</b> 1/49 (2%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1.02%	SD 1.44%	Total	0/100 (0%)	Mean 0%	SD 0%
*Clitoral/Preputial Gland: Carcinoma						0/40 (00/)	0/50 (00/)	
Overall Incidence	Total	1/49 (2%) 1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%
Clitoral/Preputial Gland: Carcinoma or Adenoma		1/49 (2%)	0/50 (0%)			0/49 (0%)	0/50 (0%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1.02%	SD 1.44%	Total	0/99 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				logy Data Managemen nce for Selected Contr Route: GAVAGE Vehicle: CORN OII		Page: 11 Report Da	<b>te:</b> 08/04/2016	
			Male				Female	
Heart: Schwannoma Benign								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 1/100 (1%)	1/50 (2%) Mean 1%	SD 1.41%
'Heart: Schwannoma NOS								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
#Intestine Small: Duodenum: Fibroma								
Overall Incidence	Total	1/49 (2%) 1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
fIntestine Small: Duodenum: Leiomyosarcoma							4/50 (0%)	
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 1/100 (1%)	1/50 (2%) Mean 1%	SD 1.41%
#Intestine Small: Jejunum: Leiomyoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
#Intestine Small: Jejunum: Leiomyosarcoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC		Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: CORN OIL					Page: 12 Report Da	<b>te:</b> 08/04/2016
					Female			
#Intestine Small: Site Unspec Fibroma	;ified:							
Overall Incidence	Total	1/49 (2%) 1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
#Intestine Small: Site Unspec Leiomyoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
#Intestine Small: Site Unspec Leiomyosarcoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	1/50 (2%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	1/100 (1%)	Mean 1%	SD 1.41%
Islets, Pancreatic: Adenoma		4/49 (8%)	1/50 (2%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	5/99 (5.05%)	Mean 5.08%	SD 4.36%	Total	0/100 (0%)	Mean 0%	SD 0%
Islets, Pancreatic: Carcinoma								
Overall Incidence	Total	2/49 (4%) 2/99 (2.02%)	0/50 (0%) Mean 2.04%	SD 2.89%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
'Islets, Pancreatic: Carcinoma or Adenoma						0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	6/49 (12%) 7/99 (7.07%)	1/50 (2%) Mean 7.12%	SD 7.24%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC		Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: CORN OIL					Page: 13 Report Dat	<b>e:</b> 08/04/2016
			Male				Female	
*Kidney: Pelvis and Transition Papilloma	al Epitheliu	m:						
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
Kidney: Renal Tubule: Adenoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
<sup>t</sup> Kidney: Renal Tubule: Carcinoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
Kidney: Renal Tubule: Carcinoma or Adenoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
Kidney: Renal Tubule: Lipoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
'Kidney: Renal Tubule: Liposarcoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ogy Data Manageme nce for Selected Contr Route: GAVAGE Vehicle: CORN Oll	ol Animal Groups		<b>te:</b> 08/04/2016	
			Male				Female	
*Liver: Cholangioma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
*Liver: Hemangioma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
*Liver: Hepatocellular Adenoma		0/40 (0%/)	0/50 (00/)			0/50 (00/)	4/50 (00/)	
Overall Incidence	Total	3/49 (6%) 3/99 (3.03%)	0/50 (0%) Mean 3.06%	SD 4.33%	Total	3/50 (6%) 4/100 (4%)	1/50 (2%) Mean 4%	SD 2.83%
*Liver: Hepatocellular Carcinoma o			0/50 (0%)			3/50 (6%)	1/50 (2%)	
Overall Incidence	Total	3/99 (3.03%)	Mean 3.06%	SD 4.33%	Total	4/100 (4%)	Mean 4%	SD 2.83%
*Liver: Hepatocellular Carcinoma, H		ılar Adenoma, or Hepatok	plastoma					
Overall Incidence	Total	3/49 (6%) 3/99 (3.03%)	0/50 (0%) Mean 3.06%	SD 4.33%	Total	3/50 (6%) 4/100 (4%)	1/50 (2%) Mean 4%	SD 2.83%
*Lung: Alveolar/Bronchiolar Adeno		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/49 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ogy Data Manageme nce for Selected Contro Route: GAVAGE Vehicle: CORN OIL	ol Animal Groups		<b>te:</b> 08/04/2016				
<b>.</b> .			Male			O/50         (0%)         O/50         (0%)           Total         0/100         (0%)         Mean 0%         SD 0%           0/50         (0%)         0/50         (0%)           Total         0/100         (0%)         Mean 0%         SD 0%					
*Lung: Alveolar/Bronchiolar Carcin	oma or Alv	eolar/Bronchiolar Adeno	na								
Alveolar/Bronchiolar Carcin		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)				
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%		0/100 (0%)	Mean 0%				
#Lymph Node: Hemangioma											
-		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)				
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%			
#Lymph Node, Mandibular: Hemangioma											
		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)				
Verall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%			
Lymph Node, Mesenteric: Hemangioma											
		1/49 (2%)	1/50 (2%)			0/50 (0%)	0/50 (0%)				
Verall Incidence	Total	2/99 (2.02%)	Mean 2.02%	SD 0.03%	Total	0/100 (0%)	Mean 0%	SD 0%			
Łymph Node, Mesenteric: Hemangiosarcoma											
		7/49 (14%)	1/50 (2%)			2/50 (4%)	1/50 (2%)				
Overall Incidence	Total	8/99 (8.08%)	Mean 8.14%	SD 8.69%	Total	3/100 (3%)	Mean 3%	SD 1.41%			
Mammary Gland: Adenoma		0/40 (001)	0/50 (00%)			0/50 (0)/)	4/50 (00/.)				
<b>A</b>	Tatal	0/49 (0%)	0/50 (0%)	00.00/	<b>T</b> . ( . )	0/50 (0%)	4/50 (8%)				
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	4/100 (4%)	Mean 4%	SD 5.66%			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				logy Data Manageme nce for Selected Contro Route: GAVAGE Vehicle: CORN OIL	ol Animal Groups		ı <b>te:</b> 08/04/2016	
•			Male			Female           1/50         (2%)         1/50         (2%)           2/100         (2%)         Mean 2%         SD 0%           1/50         (2%)         4/50         (8%)           5/100         (5%)         Mean 5%         SD 4.24%           9/50         (18%)         8/50         (16%)           17/100         17%         SD 1.41%           9/50         (18%)         12/50         (24%)           9/50         (18%)         12/50         (24%)           21/100         (21%)         Mean 21%         SD 4.24%		
#Mammary Gland: Carcinoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	2/100 (2%)	Mean 2%	
#Mammary Gland: Carcinoma or Adenoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	. ,	( )	SD 4.24%
#Mammary Gland: Fibroadenoma								
Overall Incidence	Total	0/49 (0%) 1/99 (1.01%)	1/50 (2%) Mean 1%	SD 1.41%	Total	17/100 (17%)	Mean 17%	
#Mammary Gland: Fibroma, Fibroadenoma or /		0/49 (0%)	1/50 (2%)					
Overall Incidence	Total	1/99 (1.01%)	Mean 1%	SD 1.41%	Total	21/100 (21%)	· · · ·	SD 4.24%
#Mammary Gland: Fibroma, Fibroadenoma, Ca							12/50 (24%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1%	SD 1.41%	Total	22/100 (22%)	Mean 22%	SD 2.83%
#Mesentery: Hemangiosarcoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/49 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				logy Data Manageme nce for Selected Contr Route: GAVAGE Vehicle: CORN OII	ol Animal Groups		Page: 17 Report Da	<b>te:</b> 08/04/2016		
			Male			Female				
#Mesentery: Lipoma										
Overall Incidence	Total	1/49 (2%) 1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%		
#Mesentery: Schwannoma Malignant										
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%		
'Nose: Adenoma		0/40 (00/)	0/50 /00/)			0/50 (00/)	0/50 (00/)			
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%		
Nose: Chondroma		0/49 (0%)	0/50 (0%)			1/50 (2%)	0/50 (0%)			
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	1/100 (1%)	Mean 1%	SD 1.41%		
Nose: Olfactory Neuroblastoma						0/50 (0%)	1/50 (29/.)			
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 1/100 (1%)	1/50 (2%) Mean 1%	SD 1.41%		
#Oral Cavity (Oral Mucosa, To Squamous Cell Carcinoma		ynx, Tooth, Gingiva):								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%		
*: Denominator is number of animals						( )				

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			Male			Jps         Female           0/50 (0%) 0/100 (0%)         0/50 (0%) Mean 0%         SD 0%           1/50 (2%)         0/50 (0%)         SD 0%					
#Oral Cavity (Oral Mucosa, To Squamous Cell Carcinoma,		Squamous, or Papilloma	0/50 (0)()			0/50 (00/)	0/50 (00/)				
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	, ,		SD 0%			
≄Oral Mucosa: Squamous Cell Carcinoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)				
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	( )	SD 0%			
Ovary: Adenoma											
Overall Incidence					Total	, ,	( )	SD 0%			
Ovary: Cystadenoma						0/50 (00/)	0/50 (00/1)				
Overall Incidence					Total	, ,	( )	SD 0%			
Ovary: Granulosa Cell Tumor Beni	gn										
Overall Incidence					Total	( )	( )	SD 1.41%			
Ovary: Granulosa Cell Tumor Malig	Inant										
Overall Incidence					Total	1/50 (2%) 2/100 (2%)	1/50 (2%) Mean 2%	SD 0%			
Denominator is number of animals		xamined microscopically									

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			Male				Female			
*Ovary: Granulosa Cell Tumor: B	enian. Maliana	ant. NOS								
Overall Incidence					Total	2/50 (4%) 3/100 (3%)	1/50 (2%) Mean 3%	SD 1.41%		
*Ovary: Granulosa-Theca Tumor										
Overall Incidence					Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%		
*Ovary: Sex Cord Stromal Tumor	, Benign									
Overall Incidence	-				Total	0/50 (0%) 2/100 (2%)	2/50 (4%) Mean 2%	SD 2.83%		
*Ovary: Tubulostromal Adenoma										
Overall Incidence					Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%		
*Pancreas: Adenoma										
Overall Incidence	Total	1/46 (2%) 2/96 (2.08%)	1/50 (2%) Mean 2.09%	SD 0.12%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%		
*Pancreas: Carcinoma or Adenoma						- / /`				
Overall Incidence	Total	1/46 (2%) 2/96 (2.08%)	1/50 (2%) Mean 2.09%	SD 0.12%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%		

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				logy Data Manageme nce for Selected Contr Route: GAVAGE Vehicle: CORN OII	ol Animal Groups		<b>te:</b> 08/04/2016	
			Male			Female           1/49 (2%)         0/48 (0%)           1/97 (1.03%)         Mean 1.02%         SD 1.44%           23/50 (46%)         21/50 (42%)           44/100 (44%)         Mean 44%         SD 2.83%           0/50 (0%)         0/50 (0%)           0/100 (0%)         Mean 0%         SD 0%           23/50 (46%)         21/50 (42%)           44/100 (44%)         Mean 44%         SD 2.83%		
*Parathyroid Gland: Adenoma		0/47 (49()	0/45 (00/)			4/40 (0)()	0/40 (00/)	
Overall Incidence	Total	2/47 (4%) 2/92 (2.17%)	0/45 (0%) Mean 2.13%	SD 3.01%	Total	1/97 (1.03%)	Mean 1.02%	
Pituitary Gland: Pars Distalis Adenoma		ified Site:						
Overall Incidence	Total	19/49 (39%) 40/99 (40.4%)	21/50 (42%) Mean 40.39%	SD 2.28%	Total	44/100 (44%)	Mean 44%	SD 2.83%
Pituitary Gland: Pars Distalis Carcinoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	
Pituitary Gland: Pars Distalis Carcinoma or Adenoma								
Overall Incidence	Total	19/49 (39%) 40/99 (40.4%)	21/50 (42%) Mean 40.39%	SD 2.28%	Total	44/100 (44%)	( )	SD 2.83%
Pituitary Gland: Pars Interme Adenoma								
Overall Incidence	Total	0/49 (0%) 2/99 (2.02%)	2/50 (4%) Mean 2%	SD 2.83%	Total	5/100 (5%)	Mean 5%	SD 4.24%
Pituitary Gland: Pars Interme Carcinoma or Adenoma								
Overall Incidence	Total	0/49 (0%) 2/99 (2.02%)	2/50 (4%) Mean 2%	SD 2.83%	Total	1/50 (2%) 5/100 (5%)	4/50 (8%) Mean 5%	SD 4.24%

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			Male			Female				
*Prostate: Adenoma Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%						
	101.01	0/99 (0%)		30 0%						
*Prostate: Carcinoma		0/49 (0%)	0/50 (0%)							
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%						
*Prostate: Carcinoma or Adenoma Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%						
*Salivary Glands: Adenoma		1/46 (2%)	0/50 (0%)			0/50 (0%)	0/50 (0%)			
Overall Incidence	Total	1/96 (1.04%)	Mean 1.09%	SD 1.54%	Total	0/100 (0%)	Mean 0%	SD 0%		
*Salivary Glands: Carcinoma		0/46 (0%)	0/50 (0%)			1/50 (2%)	0/50 (0%)			
Overall Incidence	Total	0/96 (0%)	Mean 0%	SD 0%	Total	1/100 (1%)	Mean 1%	SD 1.41%		
*Salivary Glands: Carcinoma or Adenoma		1/46 (2%)	0/50 (0%)			1/50 (2%)	0/50 (0%)			
Overall Incidence	Total	1/96 (1.04%)	Mean 1.09%	SD 1.54%	Total	1/100 (1%)	Mean 1%	SD 1.41%		

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Toxicol Tumor Inciden		Page: 22 Report Dat	<b>te:</b> 08/04/2016		
			Male				Female	
*Salivary Glands: Myoepithelioma Overall Incidence	Total	0/46 (0%) 1/96 (1.04%)	1/50 (2%) Mean 1%	SD 1.41%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
*Salivary Glands:						·····		
Schwannoma Malignant		0/46 (0%)	0/50 (0%)	<b>25</b> <i>au</i> /		0/50 (0%)	0/50 (0%)	<b>25</b>
Overall Incidence	Total	0/96 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
#Seminal Vesicle: Adenoma		0/49 (0%)	0/50 (0%)					
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%				
#Skeletal Muscle: Hemangiosarcoma		1/49 (2%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1.02%	SD 1.44%	Total	0/100 (0%)	Mean 0%	SD 0%
#Skeletal Muscle: Sarcoma								
Overall Incidence	Total	0/49 (0%) 1/99 (1.01%)	1/50 (2%) Mean 1%	SD 1.41%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
#Skin: Basal Cell Adenoma		1/49 (2%)	2/50 (4%)			1/50 (2%)	0/50 (0%)	
Overall Incidence	Total	3/99 (3.03%)	2/50 (4%) Mean 3.02%	SD 1.39%	Total	1/50 (2%) 1/100 (1%)	Mean 1%	SD 1.41%

Version: Aug2016 Contract/Lab: All Laboratori Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				logy Data Manageme nce for Selected Contro Route: GAVAGE Vehicle: CORN OIL	ol Animal Groups		Page: 23 Report Date: 08/04/2016				
			Male				Female				
#Skin: Basal Cell Adenoma or B	asosanamona	a Tumor Benian									
Overall Incidence	Total	1/49 (2%) 3/99 (3.03%)	2/50 (4%) Mean 3.02%	SD 1.39%	Total	1/50 (2%) 1/100 (1%)	0/50 (0%) Mean 1%	SD 1.41%			
Skin: Basal Cell Adenoma, Bas		umor Benign, or Trichoe	pithelioma								
Overall Incidence	Total	1/49 (2%) 3/99 (3.03%)	2/50 (4%) Mean 3.02%	SD 1.39%	Total	1/50 (2%) 1/100 (1%)	0/50 (0%) Mean 1%	SD 1.41%			
Skin: Basal Cell Carcinoma Overall Incidence	Total	0/49 (0%) 1/99 (1.01%)	1/50 (2%) Mean 1%	SD 1.41%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%			
Skin: Basal Cell Carcinoma or						0/50 (0%)	0/50 (0%)				
Overall Incidence	Total	1/99 (1.01%)	Mean 1%	SD 1.41%	Total	0/100 (0%)	Mean 0%	SD 0%			
Skin: Basal Cell Carcinoma, Ba NOS), or Trichoepithelior		•		nt or		4/50 (00()	0/50 (00()				
Overall Incidence	Total	1/49 (2%) 3/99 (3.03%)	2/50 (4%) Mean 3.02%	SD 1.39%	Total	1/50 (2%) 1/100 (1%)	0/50 (0%) Mean 1%	SD 1.41%			
Skin: Basal or Sq. Cell Carcino Adenoma, Papilloma, Sq	ma, Carcinom	na, Basosg. Tumor (M or I	3), Basal Cell Adenor			1/50 (2%)	0/50 (0%)				
		0,10 (070)	(11)0)			1/100 (1%)	3,00 (0,0)				

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			Male			Female		
#Skin: Fibroma								
Overall Incidence	Total	1/49 (2%) 1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
≭Skin: Fibroma, Fibrosarcoma, Sa		oma, Myxosarcoma, or Fi	brous Histiocytoma					
Overall Incidence	Total	1/49 (2%) 1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
≭Skin: Fibrosarcoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
tSkin: Fibrosarcoma, Sarcoma, My						0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
∜Skin: Fibrous Histiocytoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
≮Skin: Hamartoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/49 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				logy Data Manageme nce for Selected Contr Route: GAVAGE Vehicle: CORN OII	ol Animal Groups		Mean 1% SD 1.41%				
			Male				Female				
#Skin: Hemangiosarcoma Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 1/100 (1%)		SD 1.41%			
≇Skin: Keratoacanthoma		2/49 (4%)	4/50 (8%)			0/50 (0%)	0/50 (0%)				
Overall Incidence	Total	6/99 (6.06%)	Mean 6.04%	SD 2.77%	Total	0/100 (0%)	Mean 0%	SD 0%			
#Skin: Lipoma Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%			
έSkin: Liposarcoma Dverall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%			
¢Skin: Myxoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)				
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%			
#Skin: Neurofibrosarcoma or Schw			2/50 (4%)			0/50 (0%)	0/50 (0%)				
Overall Incidence	Total	2/99 (2.02%)	Mean 2%	SD 2.83%	Total	0/100 (0%)	Mean 0%	SD 0%			

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			Male				Female	e
#Skin: Neurofibrosarcoma, Neurof	ibroma, or S	Schwannoma (benign, ma 0/49 (0%)	lignant or NOS) 2/50 (4%)			0/50 (0%)	0/50 (0%	)
Overall Incidence	Total	2/99 (2.02%)	Mean 2%	SD 2.83%	Total	0/100 (0%)	Mean 0%	,
/Skin: Schwannoma Malignant		0/40 (0%)	2/50 (49/)			0/50 (00/.)	0/50 (0)	\ \
Overall Incidence	Total	0/49 (0%) 2/99 (2.02%)	2/50 (4%) Mean 2%	SD 2.83%	Total	0/50 (0%) 0/100 (0%)	0/50 (0% Mean 0%	/
Skin: Squamous Cell Carcinoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%	.)
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
Skin: Squamous Cell Carcinoma, or Carcinoma	Basal Cell (	Carcinoma, Basosquamou 0/49 (0%)	us Tumor (malignant 1/50 (2%)	or NOS),		0/50 (0%)	0/50 (0%	.)
Overall Incidence	Total	1/99 (1.01%)	Mean 1%	SD 1.41%	Total	0/100 (0%)	Mean 0%	/
Skin: Squamous Cell Papilloma		0/49 (0%)	1/50 (2%)			0/50 (0%)	0/50 (0%	)
Overall Incidence	Total	1/99 (1.01%)	Mean 1%	SD 1.41%	Total	0/100 (0%)	Mean 0%	SD 0%
Skin: Squamous Cell Papilloma o								
Overall Incidence	Total	0/49 (0%) 1/99 (1.01%)	1/50 (2%) Mean 1%	SD 1.41%	Total	0/50 (0%) 0/100 (0%)	0/50 (0% Mean 0%	/

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			Male		Female								
#Skin: Squamous Cell Papilloma, Papilloma, Squamous Cell Carcinoma or Keratoacanthoma 2/49 (4%) 5/50 (10%) 0/50 (0%) 0/50 (0%)													
Overall Incidence	Total	7/99 (7.07%)	Mean 7.04%	SD 4.18%	Total	0/100 (0%)	Mean 0%	SD 0%					
#Skin: Squamous Cell Papilloma, I			5/50 (10%)			0/50 (0%)	0/50 (0%)						
Overall Incidence	Total	7/99 (7.07%)	Mean 7.04%	SD 4.18%	Total	0/100 (0%)	Mean 0%	SD 0%					
#Skin: Sebaceous Gland: Adenoma													
Overall Incidence	Tatal	0/49 (0%)	0/50 (0%)		Tatal	0/50 (0%)	0/50 (0%) Mean 0%						
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%					
*Skin: Sebaceous Gland: Carcinoma or Adenoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)						
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%					
Spleen: Hemangiosarcoma													
Overell Incidence	Total	1/47 (2%)	1/50 (2%)	SD 0.00%	Total	0/50 (0%)	0/50 (0%)						
Overall Incidence	Total	2/97 (2.06%)	Mean 2.06%	SD 0.09%	Total	0/100 (0%)	Mean 0%	SD 0%					
#Stomach, Forestomach: Fibrosarcoma		1/49 (2%)	0/50 (0%)			0/50 (0%)	0/50 (0%)						
Overall Incidence	Total	1/49 (2%) 1/99 (1.01%)	0/50 (0%) Mean 1.02%	SD 1.44%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%					

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			Male	Female				
#Stomach, Forestomach: Leiomyoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
#Stomach, Forestomach: Leiomyosarcoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
		( )				0,100 (070)		
#Stomach, Forestomach: Sarcoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
#Stomach, Forestomach: Squamous Cell Carcinoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
#Stomach, Forestomach: Squamous Cell Carcinoma d		a Squamous						
<b>•</b> ••• ••		1/49 (2%)	0/50 (0%)	<b>00</b>		0/50 (0%)	0/50 (0%)	<b>25</b>
Overall Incidence	Total	1/99 (1.01%)	Mean 1.02%	SD 1.44%	Total	0/100 (0%)	Mean 0%	SD 0%
#Stomach, Forestomach: Squamous Cell Papilloma		1/49 (2%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1.02%	SD 1.44%	Total	0/100 (0%)	Mean 0%	SD 0%

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			Male		Female			
#Stomach, Glandular: Fibrosarcoma		1/49 (2%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1.02%	SD 1.44%	Total	0/100 (0%)	Mean 0%	SD 0%
#Stomach, Glandular: Leiomyosarcoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	1/50 (2%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	1/100 (1%)	Mean 1%	SD 1.41%
#Stomach, Glandular: Sarcoma		0/49 (0%)	0/50 (0%)			0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%	Total	0/100 (0%)	Mean 0%	SD 0%
'Testes: Adenoma		2/49 (4%)	0/50 (0%)					
Overall Incidence	Total	2/99 (2.02%)	Mean 2.04%	SD 2.89%				
*Testes: Hemangiosarcoma		0/49 (0%)	0/50 (0%)					
Overall Incidence	Total	0/99 (0%)	Mean 0%	SD 0%				
*Thymus: Sarcoma								
Overall Incidence	Total	0/45 (0%) 0/94 (0%)	0/49 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 1/100 (1%)	1/50 (2%) Mean 1%	SD 1.41%

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			Male			Female		
*Thymus: Thymoma Benign	Tatal	0/45 (0%)	1/49 (2%)		Turk	0/50 (0%)	1/50 (2%)	
Overall Incidence	Total	1/94 (1.06%)	Mean 1.02%	SD 1.44%	Total	1/100 (1%)	Mean 1%	SD 1.41%
*Thymus: Thymoma: Benign, Malignar	nt, NOS	0/45 (0%)	1/49 (2%)			0/50 (0%)	1/50 (2%)	
Overall Incidence	Total	1/94 (1.06%)	Mean 1.02%	SD 1.44%	Total	1/100 (1%)	Mean 1%	SD 1.41%
*Thyroid Gland: Carcinoma		0/45 (0%)	0/50 (0%)		Totol	0/45 (0%)	0/50 (0%)	CD 09/
Overall Incidence	Total	0/95 (0%)	Mean 0%	SD 0%	Total	0/95 (0%)	Mean 0%	SD 0%
*Thyroid Gland: C-Cell: Adenoma		11/45 (24%)	5/50 (10%)			7/45 (16%)	7/50 (14%)	
Overall Incidence	Total	16/95 (16.84%)	Mean 17.22%	SD 10.21%	Total	14/95 (14.74%)	Mean 14.78%	SD 1.1%
*Thyroid Gland: C-Cell: Carcinoma		0/45 (0%)	0/50 (0%)			0/45 (0%)	0/50 (0%)	
Overall Incidence	Total	0/95 (0%)	Mean 0%	SD 0%	Total	0/95 (0%)	Mean 0%	SD 0%
*Thyroid Gland: C-Cell: Carcinoma or Adenoma		11/45 (24%)	5/50 (10%)			7/45 (16%)	7/50 (14%)	
Overall Incidence	Total	16/95 (16.84%)	Mean 17.22%	SD 10.21%	Total	14/95 (14.74%)	Mean 14.78%	SD 1.1%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 31 Report Da	<b>te:</b> 08/04/2016				
			Male			Female		
*Thyroid Gland: Follicular Cel Adenoma	:	1/45 (2%)	3/50 (6%)			1/45 (2%)	3/50 (6%)	
Overall Incidence	Total	4/95 (4.21%)	Mean 4.11%	SD 2.67%	Total	4/95 (4.21%)	Mean 4.11%	SD 2.67%
*Thyroid Gland: Follicular Cell Carcinoma		0/45 (0%)	0/50 (0%)			0/45 (0%)	0/50 (0%)	
Overall Incidence	Total	0/95 (0%)	Mean 0%	SD 0%	Total	0/95 (0%)	Mean 0%	SD 0%
Thyroid Gland: Follicular Cell Carcinoma or Adenoma		1/45 (2%)	3/50 (6%)			1/45 (2%)	3/50 (6%)	
Overall Incidence	Total	4/95 (4.21%)	Mean 4.11%	SD 2.67%	Total	4/95 (4.21%)	Mean 4.11%	SD 2.67%
Urinary Bladder: Carcinoma or Papilloma		0/49 (0%)	1/50 (2%)			0/50 (0%)	1/50 (2%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1%	SD 1.41%	Total	1/100 (1%)	Mean 1%	SD 1.41%
Urinary Bladder: Papilloma		0/49 (0%)	1/50 (2%)			0/50 (0%)	1/50 (2%)	
Overall Incidence	Total	1/99 (1.01%)	Mean 1%	SD 1.41%	Total	1/100 (1%)	Mean 1%	SD 1.41%
#Uterus: Adenoma								
Overall Incidence					Total	1/50 (2%) 1/100 (1%)	0/50 (0%) Mean 1%	SD 1.41%

Male Uterus:			Female	
Carcinoma		1/50 (2%)	3/50 (6%)	
Overall Incidence	Total	4/100 (4%)	Mean 4%	SD 2.83%
Uterus:				
Granular Cell Tumor Benign		1/50 (2%)	0/50 (0%)	
Overall Incidence	Total	1/100 (1%)	Mean 1%	SD 1.41%
Uterus:		•••••••••••••••••••••••••••••••••••••••		
Hemangiosarcoma				
Overall Incidence	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
Uterus:				
Leiomyosarcoma				
Overall Incidence	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
Uterus:				
Malignant Mixed Mullerian Tumor				
		1/50 (2%)	0/50 (0%)	
Overall Incidence	Total	1/100 (1%)	Mean 1%	SD 1.41%
Uterus:				
Polyp Stromal		0/50 (00/)	0/50 (40/)	
Overall Incidence	Total	3/50 (6%) 5/100 (5%)	2/50 (4%) Mean 5%	SD 1.41%
Denominator is number of animals with tissues examined microscopically				

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC	Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: CORN OIL	Page: 33 Report Date: 08/04/2016					
	Male		Female				
#Uterus: Sarcoma Stromal							
Overall Incidence	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%			
#Uterus: Sarcoma Stromal or Polyp Stromal							
Overall Incidence	Total	3/50 (6%) 5/100 (5%)	2/50 (4%) Mean 5%	SD 1.41%			
#Uterus: Schwannoma Malignant							
Overall Incidence	Total	1/50 (2%) 1/100 (1%)	0/50 (0%) Mean 1%	SD 1.41%			
tUterus: Squamous Cell Papilloma							
Overall Incidence	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%			
ŧVagina: Fibrosarcoma							
Overall Incidence	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%			
≇Vagina: Leiomyoma							
Overall Incidence	Total	0/50 (0%) 1/100 (1%)	1/50 (2%) Mean 1%	SD 1.41%			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				Page: 34 Report Date: 08/04/2016				
			Male				Female	
#Vagina: Polyp								
Overall Incidence					Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
#Zymbal's Gland: Carcinoma		0/40 (0%)						
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%
#Zymbal's Gland: Carcinoma or Adenoma								
Overall Incidence	Total	0/49 (0%) 0/99 (0%)	0/50 (0%) Mean 0%	SD 0%	Total	0/50 (0%) 0/100 (0%)	0/50 (0%) Mean 0%	SD 0%

#### Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC

#### Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: WATER

	Study Summary										
Laboratory Name	Study Number	Study Start Date	Length of Study in Days	Number of Animals Total and (#/Cage)	Number Surviving and (Mean Life Span)	Maximum Mean Weekly Body Weight	Chemical				
					Male						
Battelle Columbus Laboratory	052020303	07/18/07	727	50(3)	35(687)	632.7	Green Tea Extract				
					Female						
Battelle Columbus Laboratory	052020303	07/19/07	729	50(5)	26(671)	369.7	Green Tea Extract				

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 36 Report Date: 08/04/2016					
			Male		Female			
#All Organs: Benign Tumors		26/50 (52%)				38/50 (76%)		
Overall Incidence	Total	26/50 (52%)	Mean 52%	SD 0%	Total	38/50 (76%)	Mean 76%	SD 0%
#All Organs: Malignant Tumors		12/50 (24%)				16/50 (32%)		
Overall Incidence	Total	12/50 (24%)	Mean 24%	SD 0%	Total	16/50 (32%)	Mean 32%	SD 0%
#All Organs: Malignant and Benign Tumo Overall Incidence		36/50 (72%) 36/50 (72%)	Mean 72%	SD 0%	Total	43/50 (86%) 43/50 (86%)	Mean 86%	SD 0%
#All Organs: Hemangioma Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
#All Organs: Hemangiosarcoma		0/50 (0%)				2/50 (4%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	2/50 (4%)	Mean 4%	SD 0%
#All Organs: Hemangiosarcoma or Hema		0/50 (0%)				2/50 (4%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	2/50 (4%)	Mean 4%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	•		Page: 37 Report Dat	<b>e:</b> 08/04/2016
			Male				(0%) %) Mean 0% SD 0% (2%) %) Mean 2% SD 0% (0%) %) Mean 0% SD 0% (0%)	
#All Organs: Histiocytic Sarcoma		0/50 (0%				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)		
#All Organs: Leukemia: Lymphocytic, Mc			ferentiated					
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#All Organs: Malignant Lymphoma: Histi Overall Incidence	<b>ocytic, Lymį</b> Total	ohocytic, Mixed, NO 0/50 (0% 0/50 (0%)	b <b>S, or Undifferentiated C</b> b) Mean 0%	ell Type SD 0%	Total	1/50 (2%) 1/50 (2%)		SD 0%
#All Organs: Mesothelioma: Benign, Mali		2/50 (4%						
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#All Organs: Mesothelioma: Malignant		2/50 (4%				0/50 (0%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#All Organs: Osteoma		1/50 (2%	5)			0/50 (0%)		
		1/50 (2%)	1	SD 0%		0/50 (0%)		

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	-		Page: 38 Report Date: 08/04/2016				
			Male				Female				
#All Organs: Osteosarcoma		1/50 (2%)				0/50 (0%)					
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			
#All Organs: Osteosarcoma or Osteoma		2/50 (4%)				0/50 (0%)					
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			
*Adrenal Cortex: Adenoma Overall Incidence	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
*Adrenal Cortex: Carcinoma Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
*Adrenal Medulla: Pheochromocytoma Benign		1/50 (2%)				1/50 (2%)					
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%			
*Adrenal Medulla: Pheochromocytoma Comple		0/50 (0%)				0/50 (0%)					
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	-		Page: 39         Report Date: 08/04/2016         Female         Mean 0%       SD 0%				
			Male				Female           0/50 (0%) /50 (0%)         Mean 0%         SD 0%           1/50 (2%) /50 (2%)         Mean 2%         SD 0%           0/50 (0%) /50 (0%)         Mean 0%         SD 0%           0/50 (0%) /50 (0%)         Mean 0%         SD 0%           0/50 (0%) /50 (0%)         Mean 0%         SD 0%				
*Adrenal Medulla: Pheochromocytoma Malig	nant	0/50 (0%)				0/50 (0%)					
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			
*Adrenal Medulla: Pheochromocytoma: Beni	gn, Complex,					1/50 (2%)					
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%			
#Blood Vessel: Hemangiosarcoma		0/50 (0%)				( )	M	05.00			
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			
Bone Marrow: Hemangiosarcoma Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
#Bone: Osteoma		4/50 (20/.)				0/50 (0%)					
Overall Incidence	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)					
#Bone: Osteosarcoma		1/50 (2%)				0/50 (0%)					
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	ol Animal Groups		Page: 40 Report Date: 08/04/2016				
			Male			Female           0/50 (0%) 0/50 (0%)         Mean 0%         SD 0%           0/50 (0%) 0/50 (0%)         Mean 0%         SD 0%					
#Bone: Osteosarcoma or Osteoma Overall Incidence	Total	2/50 (4%) 2/50 (4%)	Mean 4%	SD 0%	Total	· · /	Moon 0%	SD 0%/			
	10lai	2/50 (4%)		50 0%	ı olai	0/50 (0%)		30 0%			
#Bone: Sarcoma		1/50 (2%)				0/50 (0%)					
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total		Mean 0%	SD 0%			
'Brain: Glioma		0/50 (0%)				0/50 (0%)					
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	( )	Mean 0%	SD 0%			
Brain: Glioma Malignant		1/50 (2%)				( )					
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			
Brain: Granular Cell Tumor Benig	n	2/50 (4%)				0/50 (0%)					
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)					
Brain: Granular Cell Tumor Maligi											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	rol Animal Groups			Page: 41 Report Date: 08/04/2016	
			Male				Female           0/50 (0%)         Mean 0%         SD 0%           0/49 (0%)         Mean 0%         SD 0%		
*Brain: Meningioma Malignant		0/50 (0%)				0/50 (0%)			
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%	
*Brain: Meningioma: Benign, Malig	nant, NOS	0/50 (0%)				0/50 (0%)			
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%	
*Brain: Oligodendroglioma Benign Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	
*Brain: Oligodendroglioma, Glioma Overall Incidence		toma 1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	Total		Mean 0%	SD 0%	
*Clitoral/Preputial Gland: Carcinoma									
Overall Incidence	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	Total	0/49 (0%)			
*Clitoral/Preputial Gland: Carcinoma or Adenoma									
Overall Incidence	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	Total	0/49 (0%) 0/49 (0%)	Mean 0%	SD 0%	

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	-		Page: 42 Report Dat	<b>e:</b> 08/04/2016
			Male	dence for Selected Control Animal Groups Route: GAVAGE			Female	
*Heart: Schwannoma Benign Overall Incidence	Total	0/50 (0%)	Maan 00/	SD 00/	Tatal		Maga 00/	SD 0%
	10tai	0/50 (0%)	Mean 0%	50 0%	TOLAI	0/50 (0%)	Mean 0%	50 0%
*Heart: Schwannoma NOS		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%			0/50 (0%)	Mean 0%	SD 0%
#Intestine Small: Duodenum: Fibroma		0/50 (0%)					M 00/	CD 00/
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	ı otal	0/50 (0%)	Mean 0%	SD 0%
#Intestine Small: Duodenum: Leiomyosarcoma Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total		Mean 0%	SD 0%
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%			0/50 (0%)	Mean 0%	SD 0%
#Intestine Small: Jejunum: Leiomyosarcoma								
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	-		Page: 43 Report Date: 08/04/2016 Female				
			Male				Female           ) (0%) (0%)         Mean 0%         SD 0%           ) (0%) (0%)         Mean 0%         SD 0%           ) (0%) (2%)         Mean 2%         SD 0%           ) (2%) (2%)         Mean 2%         SD 0%           ) (0%) (0%)         Mean 0%         SD 0%				
#Intestine Small: Site Unspeci Fibroma	fied:										
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)					
#Intestine Small: Site Unspeci Leiomyoma											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
#Intestine Small: Site Unspeci Leiomyosarcoma											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%)					
*Islets, Pancreatic: Adenoma		0/50 (0%)									
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			
*Islets, Pancreatic: Carcinoma											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
*Islets, Pancreatic: Carcinoma or Adenoma		0/50 (0%)				0/50 (0%)					
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			

<b>/ersion:</b> Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	rol Animal Groups		Page: 44 Report Date: 08/04/2016 Female Mean 0% SD 0%				
			Male				Female           %)         Mean 0%         SD 0%           %)         Mean 0%         SD 0%				
*Kidney: Pelvis and Transition Papilloma	al Epitheliu	m:									
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
*Kidney: Renal Tubule: Adenoma											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
*Kidney: Renal Tubule: Carcinoma											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
*Kidney: Renal Tubule: Carcinoma or Adenoma		0/50 (0%)				0/50 (0%)					
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			
*Kidney: Renal Tubule: Lipoma						4/50 (00/)					
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%			
*Kidney: Renal Tubule: Liposarcoma		1/50 (2%)				0/50 (0%)					
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 45 Report Date: 08/04/2016					
			Male			Female		
'Liver: Cholangioma		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
Liver: Hemangioma		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
Liver: Hepatocellular Adenoma Dverall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%
Liver: Hepatocellular Carcinoma Dverall Incidence	or Hepatocel	lular Adenoma 0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%
Liver: Hepatocellular Carcinoma,						1/50 (2%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%
Lung: Alveolar/Bronchiolar Aden		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER	-		<b>Page:</b> 46 <b>Report Date:</b> 08/04/2				
			Male				Female				
*Lung: Alveolar/Bronchiolar Carcin	oma or Alve	eolar/Bronchiolar Adeno 0/50 (0%)	ma			0/50 (0%)					
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%			
#Lymph Node: Hemangioma											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
#Lymph Node, Mandibular: Hemangioma											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
#Lymph Node, Mesenteric: Hemangioma		0/50 (09/)									
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%			
#Lymph Node, Mesenteric: Hemangiosarcoma											
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%			
#Mammary Gland: Adenoma		0/50 /00/				0/50 / //0/)					
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	2/50 (4%) 2/50 (4%)	Mean 4%	SD 0%			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				cology Data Manageme lence for Selected Contr Route: GAVAGE Vehicle: WATER	-	Page: 47 Report Date: 08/04/2016 Female				
			Male				Female			
#Mammary Gland: Carcinoma		0/50 (0%	6)			6/50 (12%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	6/50 (12%)	Mean 12%	SD 0%		
#Mammary Gland: Carcinoma or Adenoma		0/50 (0%	6)			8/50 (16%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	8/50 (16%)	Mean 16%	SD 0%		
#Mammary Gland: Fibroadenoma Overall Incidence	Total	0/50 (0%) 0/50 (0%)		SD 0%	Total	11/50 (22%) 11/50 (22%)	Mean 22%	SD 0%		
		0/50 (0%)		50 0%	TOLA	11/50 (22%)	Mean 22%	50 0%		
#Mammary Gland: Fibroma, Fibroadenoma or A	Adenoma	0/50 (0%	6)			11/50 (22%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	11/50 (22%)	Mean 22%	SD 0%		
#Mammary Gland: Fibroma, Fibroadenoma, Ca		Adenoma 0/50 (0%				15/50 (30%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	15/50 (30%)	Mean 30%	SD 0%		
#Mesentery: Hemangiosarcoma		0/50 (0%				1/50 (2%)				
Overall Incidence	Total	0/50 (0%)	%) Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%		

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				Page: 48 Report Date: 08/04/2016				
			Male				Female	
#Mesentery: Lipoma								
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
#Mesentery: Schwannoma Malignant		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
*Nose: Adenoma		0/50 (0%)				0/49 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%)	Mean 0%	SD 0%
Nose: Chondroma		0/50 (0%)				0/49 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%)	Mean 0%	SD 0%
Nose: Olfactory Neuroblastoma		0/50 (00/)				0(40 (004)		
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%) 0/49 (0%)	Mean 0%	SD 0%
#Oral Cavity (Oral Mucosa, To Squamous Cell Carcinoma								
<b>•</b> •• • •	<b>-</b>	1/50 (2%)	M 00/	00.004	<b>-</b>	1/50 (2%)	M 00/	00.00/
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 49 Report Date: 08/04/2016					
			Male				Female	
#Oral Cavity (Oral Mucosa, To Squamous Cell Carcinoma,								
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%
#Oral Mucosa: Squamous Cell Carcinoma		1/50 (2%)				1/50 (2%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%
*Ovary: Adenoma								
Overall Incidence					Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*Ovary: Cystadenoma						0/50 (0%)		
Overall Incidence					Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*Ovary: Granulosa Cell Tumor Beni	gn							
Overall Incidence					Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*Ovary: Granulosa Cell Tumor Maliç	jnant							
Overall Incidence					Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*: Denominator is number of animals		examined microscopically						

Version: Aug2016 Contract/Lab: All Laboratorie Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: WATER					e: 08/04/2016
			Male				Female	
*Ovary: Granulosa Cell Tumor: B	enian. Maliana	nt NOS						
Overall Incidence		,			Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*Ovary: Granulosa-Theca Tumor	Malignant							
Overall Incidence					Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*Ovary: Sex Cord Stromal Tumor								
Overall Incidence					Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*Ovary: Tubulostromal Adenoma								
Overall Incidence					Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*Pancreas: Adenoma								
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
*Pancreas: Carcinoma or Adenoma		0/50 (0%)						
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			<b>Toxicc</b> Tumor Incide	Page: 51 Report Date: 08/04/2016				
			Male		Female			
*Parathyroid Gland: Adenoma								
		0/47 (0%)				0/47 (0%)		
Overall Incidence	Total	0/47 (0%)	Mean 0%	SD 0%	Total	0/47 (0%)	Mean 0%	SD 0%
*Pituitary Gland: Pars Distalis Adenoma								
		17/50 (34%)				32/50 (64%)		
Overall Incidence	Total	17/50 (34%)	Mean 34%	SD 0%	Total	32/50 (64%)	Mean 64%	SD 0%
*Pituitary Gland: Pars Distalis Carcinoma								
		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
*Pituitary Gland: Pars Distalis Carcinoma or Adenoma		ified Site:						
Overell Incidence	Total	17/50 (34%)	Maan 240/		Total	32/50 (64%)	Maan 649/	
Overall Incidence	Total	17/50 (34%)	Mean 34%	SD 0%	Total	32/50 (64%)	Mean 64%	SD 0%
*Pituitary Gland: Pars Interme Adenoma	dia:							
		1/50 (2%)				2/50 (4%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	2/50 (4%)	Mean 4%	SD 0%
*Pituitary Gland: Pars Interme Carcinoma or Adenoma	dia:	4/F0 (00()				0/50 (40/)		
Overall Incidence	Total	1/50 (2%)	Moon 20/	SD 00/	Tatal	2/50 (4%)	Moon 49/	SD 09/
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	2/50 (4%)	Mean 4%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 52 Report Date: 08/04/2016							
			Male			Female				
*Prostate: Adenoma		0/50 (0%)								
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%						
*Prostate: Carcinoma		0/50 (0%)								
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%						
*Prostate: Carcinoma or Adenoma Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%						
*Salivary Glands: Adenoma Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%) 0/49 (0%)	Mean 0%	SD 0%		
*Salivary Glands: Carcinoma		0/50 (0%)				0/49 (0%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%)	Mean 0%	SD 0%		
*Salivary Glands: Carcinoma or Adenoma		0/50 (0%)				0/49 (0%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%)	Mean 0%	SD 0%		

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 53 Report Date: 08/04/2016					
			Male				Female	
*Salivary Glands: Myoepithelioma		0/50 (0%)				0/49 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%)	Mean 0%	SD 0%
*Salivary Glands: Schwannoma Malignant		0/50 (0%)				0/49 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%)	Mean 0%	SD 0%
#Seminal Vesicle: Adenoma		0/50 (0%)						
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%				
#Skeletal Muscle: Hemangiosarcoma Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
#Skeletal Muscle: Sarcoma		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#Skin: Basal Cell Adenoma		2/50 (4%)				0/50 (0%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			<b>Toxico</b> Tumor Incide	Page: 54 Report Date: 08/04/2016				
			Male			Female		
#Skin:								
Basal Cell Adenoma or Ba	sosquamous	2/50 (4%)				0/50 (0%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#Skin:								
Basal Cell Adenoma, Baso	squamous T	umor Benign, or Trichoe	pithelioma					
		2/50 (4%)				0/50 (0%)		
overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
≭Skin: Basal Cell Carcinoma		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
Skin: Basal Cell Carcinoma or B	asosquamou	s Tumor (malignant or N	10S)					
	-	0/50 (0%)	-			0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
Skin: Basal Cell Carcinoma, Bas NOS), or Trichoepitheliom	al Cell Adeno							
		2/50 (4%)				0/50 (0%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
Skin: Basal or Sq. Cell Carcinon Adenoma, Papilloma, Sq P	na, Carcinom	a, Basosq. Tumor (M or	B), Basal Cell Adeno			0/50 (0%)		
Overall Incidence	Total	6/50 (12%)	Mean 12%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
*: Denominator is number of anima #: Denominator is number of anima		examined microscopically			••••••			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 55 Report Date: 08/04/2016					
			Male				Female	
#Skin: Fibroma		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
≭Skin: Fibroma, Fibrosarcoma, Sa	rcoma, Myxc	oma, Myxosarcoma, or Fi 1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
∜Skin: Fibrosarcoma Dverall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
∜Skin: Fibrosarcoma, Sarcoma, M Dverall Incidence	<b>yxosarcoma</b> , Total	or Fibrous Histiocytoma 0/50 (0%) 0/50 (0%)	a Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
Skin: Fibrous Histiocytoma		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
ℓSkin: Hamartoma		1/50 (2%)						
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 56 Report Date: 08/04/2016					
			Male		Female			
#Skin: Hemangiosarcoma		0/50 (0%)			0/50 (0%)			
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#Skin: Keratoacanthoma		2/50 (4%)				0/50 (0%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#Skin: Lipoma		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
¥Skin: Liposarcoma		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
≇Skin: Myxoma		0/50 (0%)				0/50 (0%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#Skin: Neurofibrosarcoma or Schv		alignant or NOS) 2/50 (4%)				2/50 (4%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	2/50 (4%)	Mean 4%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			<b>Toxico</b> Tumor Incide	Page: 57 Report Date: 08/04/2016				
			Male			Female		
#Skin: Neurofibrosarcoma, Neur		2/50 (4%)	-			2/50 (4%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	2/50 (4%)	Mean 4%	SD 0%
#Skin: Schwannoma Malignant		2/50 (4%)				2/50 (4%)		
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%	Total	2/50 (4%)	Mean 4%	SD 0%
#Skin: Squamous Cell Carcinom		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#Skin: Squamous Cell Carcinom or Carcinoma						0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#Skin: Squamous Cell Papilloma		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
#Skin: Squamous Cell Papilloma								
Overall Incidence	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 58 Report Date: 08/04/2016									
			Male				Female					
#Skin: Squamous Cell Papilloma, Papilloma, Squamous Cell Carcinoma or Keratoacanthoma 4/50 (8%) 0/50 (0%)												
Overall Incidence	Total	4/50 (8%)	Mean 8%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%				
#Skin: Squamous Cell Papilloma, P		r Keratoacanthoma 3/50 (6%)				0/50 (0%)						
Overall Incidence	Total	3/50 (6%)	Mean 6%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%				
#Skin: Sebaceous Gland: Adenoma		1/50 (2%)				0/50 (0%)						
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%				
#Skin: Sebaceous Gland: Carcinoma or Adenoma		1/50 (2%)				0/50 (0%)						
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%				
*Spleen: Hemangiosarcoma		0/50 (0%)				0/50 (0%)						
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%				
#Stomach, Forestomach: Fibrosarcoma		0/50 (0%)				0/50 (0%)						
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%				

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC		Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: WATER							Page: 59 Report Date: 08/04/2016		
				Male		Female					
#Stomach, Forestomach: Leiomyoma Overall Incidence	Total	0/50 0/50 (0%)	(0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%		
	TULAI	0/30 (078)			30 0%	10181	0/30 (078)		50 0%		
#Stomach, Forestomach: Leiomyosarcoma		1/50	(2%)				0/50 (0%)				
Overall Incidence	Total	1/50 (2%)		Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%		
#Stomach, Forestomach: Sarcoma			(0%)				0/50 (0%)				
Overall Incidence	Total	0/50 (0%)		Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%		
#Stomach, Forestomach: Squamous Cell Carcinoma		0/50	(0%)				1/50 (2%)				
Overall Incidence	Total	0/50 (0%)		Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%		
#Stomach, Forestomach: Squamous Cell Carcinoma o	or Papilloma		(0%)				1/50 (2%)				
Overall Incidence	Total	0/50 (0%)		Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%		
#Stomach, Forestomach: Squamous Cell Papilloma											
Overall Incidence	Total	0/50 0/50 (0%)	(0%)	Mean 0%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%		

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC	Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: GAVAGE Vehicle: WATER							Page: 60 Report Date: 08/04/2016		
			Male				Female			
#Stomach, Glandular: Fibrosarcoma		0/50 (0%)				0/50 (0%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%		
#Stomach, Glandular: Leiomyosarcoma		0/50 (0%)				0/50 (0%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%		
#Stomach, Glandular: Sarcoma		0/50 (0%)	Mean 0%			0/50 (0%)		CD 0%		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%		
Testes: Adenoma		2/50 (4%)								
Overall Incidence	Total	2/50 (4%)	Mean 4%	SD 0%						
*Testes: Hemangiosarcoma		0/50 (0%)								
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%						
*Thymus: Sarcoma						0/40 (0%)				
Overall Incidence	Total	0/49 (0%) 0/49 (0%)	Mean 0%	SD 0%	Total	0/49 (0%) 0/49 (0%)	Mean 0%	SD 0%		

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Page: 61 Report Date: 08/04/2016					
			Male				Female	
*Thymus: Thymoma Benign Overall Incidence	Total	2/49 (4%) 2/49 (4.08%)	Mean 4.08%	SD 0%	Total	3/49 (6%) 3/49 (6.12%)	Mean 6.12%	SD 0%
*Thymus: Thymoma: Benign, Maligna								
Overall Incidence	Total	2/49 (4%) 2/49 (4.08%)	Mean 4.08%	SD 0%	Total	3/49 (6%) 3/49 (6.12%)	Mean 6.12%	SD 0%
*Thyroid Gland: Carcinoma		0/50 (0%)	Magn 00/	CD 00/	Totol	0/50 (0%)	Maga 00/	SD 00/
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%
*Thyroid Gland: C-Cell: Adenoma		4/50 (8%)				3/50 (6%)		
Overall Incidence	Total	4/50 (8%)	Mean 8%	SD 0%	Total	3/50 (6%)	Mean 6%	SD 0%
*Thyroid Gland: C-Cell: Carcinoma		0/50 (0%)				1/50 (2%)		
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%
*Thyroid Gland: C-Cell: Carcinoma or Adenoma		4/50 (8%)				4/50 (8%)		
Overall Incidence	Total	4/50 (8%)	Mean 8%	SD 0%	Total	4/50 (8%)	Mean 8%	SD 0%

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC				ology Data Manageme ence for Selected Contr Route: GAVAGE Vehicle: WATER						
			Male				Female			
*Thyroid Gland: Follicular Cel Adenoma	l:	0/50 (0%)				1/50 (2%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%)	Mean 2%	SD 0%		
*Thyroid Gland: Follicular Cel Carcinoma		0/50 (0%)				0/50 (0%)				
Overall Incidence	Total	0/50 (0%)	Mean 0%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%		
*Thyroid Gland: Follicular Cel Carcinoma or Adenoma Overall Incidence	l: Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%		
<sup>t</sup> Urinary Bladder: Carcinoma or Papilloma Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%) 0/49 (0%)	Mean 0%	SD 0%		
*Urinary Bladder: Papilloma					Total					
Overall Incidence	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	Total	0/49 (0%) 0/49 (0%)	Mean 0%	SD 0%		
#Uterus: Adenoma										
Overall Incidence					Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%		

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC	Toxicology Data Managemer Tumor Incidence for Selected Contro Route: GAVAGE Vehicle: WATER	Tumor Incidence for Selected Control Animal Groups Route: GAVAGE				
	Male		Female			
#Uterus:						
Carcinoma			3/50 (6%)			
Overall Incidence		Total	3/50 (6%)	Mean 6%	SD 0%	
#Uterus: Granular Cell Tumor Benign						
Overall Incidence		Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	
#Uterus: Hemangiosarcoma						
Overall Incidence		Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	
#Uterus: Leiomyosarcoma						
			0/50 (0%)			
Overall Incidence		Total	0/50 (0%)	Mean 0%	SD 0%	
#Uterus:						
Malignant Mixed Mullerian Tumor			0/50 (0%)			
Overall Incidence		Total	0/50 (0%)	Mean 0%	SD 0%	
#Uterus:						
Polyp Stromal			0/50 (00/)			
Overall Incidence		Total	3/50 (6%) 3/50 (6%)	Mean 6%	SD 0%	
*: Denominator is number of animals with tissues examined micros			(,			

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC						
	Male	Male				
#Uterus: Sarcoma Stromal Overall Incidence		Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	
#Uterus: Sarcoma Stromal or Polyp Stromal						
Overall Incidence		Total	4/50 (8%) 4/50 (8%)	Mean 8%	SD 0%	
#Uterus: Schwannoma Malignant Overall Incidence		Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	
#Uterus: Squamous Cell Papilloma			0/50 (0%)			
Overall Incidence		Total	0/50 (0%)	Mean 0%	SD 0%	
#Vagina: Fibrosarcoma			0/50 (0%)			
Overall Incidence		Total	0/50 (0%)	Mean 0%	SD 0%	
#Vagina: Leiomyoma						
Overall Incidence *: Denominator is number of animals with tissues examined micros #: Denominator is number of animals percentied		Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%	

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC	i		Page: 65 Report Dat	Page: 65 Report Date: 08/04/2016				
			Male				Female	
#Vagina: Polyp								
Overall Incidence					Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%
#Zymbal's Gland: Carcinoma		4/50 (00/)				0/50 (00/)		
Overall Incidence	Total	1/50 (2%) 1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%) 0/50 (0%)	Mean 0%	SD 0%
#Zymbal's Gland: Carcinoma or Adenoma								
		1/50 (2%)				0/50 (0%)		
Overall Incidence	Total	1/50 (2%)	Mean 2%	SD 0%	Total	0/50 (0%)	Mean 0%	SD 0%

# Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

				Stu	dy Summary		
Laboratory Name	Study Number	Study Start Date	Length of Study in Days	Number of Animals Total and (#/Cage)	Number Surviving and (Mean Life Span)	Maximum Mean Weekly Body Weight	Chemical
					Male		
Battelle Northwest	052060103	09/22/08	729	50(5)	30(672)	606.7	Antimony trioxide
Battelle Northwest	052072503	08/17/09	729	50(5)	36(692)	615.2	2,3-Butanedione
Battelle Northwest	052051503	04/14/08	729	50(5)	33(688)	602.8	Metal Working Fluids: CIMSTAR 3800
Battelle Northwest	052052303	07/20/09	729	50(5)	36(696)	622.2	Metal Working Fluids: TRIM VX
					Female		
Battelle Northwest	052060103	09/22/08	730	50(5)	39(704)	395.6	Antimony trioxide
Battelle Northwest	052072503	08/17/09	731	50(5)	34(688)	400.0	2,3-Butanedione
Battelle Northwest	052051503	04/14/08	731	50(5)	35(700)	384.9	Metal Working Fluids: CIMSTAR 3800
Battelle Northwest	052052303	07/20/09	731	50(5)	30(681)	391.1	Metal Working Fluids: TRIM VX

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han Length of Study: CHRONIC

# Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

## Page: 67 Report Date: 08/04/2016

			Male				Female	
#All Organs: Benign Tumors								
		34/50 (68%) 24/50 (48%)	27/50 (54%)	32/50 (64%)		33/50 (66%) 42/50 (84%)	39/50 (78%)	42/50 (84%)
Overall Incidence	Total	117/200 (58.5%)	Mean 58.5%	SD 9.15%	Total	156/200 (78%)	Mean 78%	SD 8.49%
#All Organs: Malignant Tumors								
		6/50 (12%) 4/50 (8%)	13/50 (26%)	13/50 (26%)		17/50 (34%) 13/50 (26%)	12/50 (24%)	11/50 (22%)
Overall Incidence	Total	36/200 (18%)	Mean 18%	SD 9.38%	Total	53/200 (26.5%)	Mean 26.5%	SD 5.26%
#All Organs: Malignant and Benign Tu	umors	36/50 (72%) 26/50 (52%)	35/50 (70%)	37/50 (74%)		40/50 (80%) 47/50 (94%)	40/50 (80%)	43/50 (86%)
Overall Incidence	Total	134/200 (67%)	Mean 67%	SD 10.13%	Total	170/200 (85%)	Mean 85%	SD 6.63%
All Organs: Hemangioma								
		1/50 (2%) 1/50 (2%)	1/50 (2%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)
Overall Incidence	Total	3/200 (1.5%)	Mean 1.5%	SD 1%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
#All Organs: Hemangiosarcoma								
		3/50 (6%) 0/50 (0%)	3/50 (6%)	3/50 (6%)		1/50 (2%) 0/50 (0%)	2/50 (4%)	1/50 (2%)
Overall Incidence	Total	9/200 (4.5%)	Mean 4.5%	SD 3%	Total	4/200 (2%)	Mean 2%	SD 1.63%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

# Species: RATS

Strain: Wistar-Han Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 68 Report Date: 08/04/2016

				I	Male						F	emale		
#All Organs: Hemangiosarcoma or I	Hemangioma													
		4/50 1/50	(8%) (2%)	4/50	(8%)	3/50	(6%)		1/50 0/50	(2%) (0%)	3/50	(6%)	1/50	(2%)
Overall Incidence	Total	12/200 (6%	»)	Mean 6	5%	SD 2.83%	,	Total	5/200 (2	2.5%)	Mean	2.5%	SD 2	.52%
#All Organs: Histiocytic Sarcoma														
		0/50 0/50	(0%) (0%)	1/50	(2%)	0/50	(0%)		0/50 2/50	(0%) (4%)	0/50	(0%)	0/50	(0%)
Overall Incidence	Total	1/200 (0.5%	6)	Mean 0.	5%	SD 1%		Total	2/200 (	1%)	Mear	n 1%	SD	2%
#All Organs: Leukemia: Lymphocyti	ic, Monocytic, Me	1/50	(2%)	n <b>tiated</b> 0/50	(0%)	0/50	(0%)		0/50	(0%)	0/50	(0%)	0/50	(0%)
	<b>ic, Monocytic, M</b> o Total	•	(2%) (0%)		( )	0/50 SD 1%	(0%)	Total	0/50 0/50 0/200 (	(0%)	0/50 Mear	( )	0/50 SD	( )
Leukemia: Lymphocyti Overall Incidence #All Organs:	Total	1/50 0/50 1/200 (0.5%	(2%) (0%) %)	0/50 Mean 0.	5%	SD 1%	(0%)	Total	0/50	(0%)		( )		( )
Leukemia: Lymphocyt	Total	1/50 0/50 1/200 (0.5%	(2%) (0%) %)	0/50 Mean 0.	5%	SD 1%	(0%)	Total	0/50	(0%)		( )		( )
Leukemia: Lymphocyti Overall Incidence #All Organs: Malignant Lymphoma:	Total	1/50 0/50 1/200 (0.5% phocytic, Mixed 0/50	(2%) (0%) (0%) (0%) (0%) (2%)	0/50 Mean 0. Undifferenti	5% iated Cell (6%)	SD 1%	(0%)	Total Total	0/50 0/200 ( 0/50	(0%) 0%) 	Mear	0% (2%)	SD	0% 
Leukemia: Lymphocyti Overall Incidence #All Organs:	Total <b>Histiocytic, Lym</b> Total	1/50 0/50 1/200 (0.5% phocytic, Mixed 0/50 1/50 4/200 (2%)	(2%) (0%) (0%) (0%) (0%) (2%)	0/50 Mean 0. Undifferenti 3/50	5% iated Cell (6%)	SD 1% <b>Type</b> 0/50	(0%)		0/50 0/200 ( 0/50 1/50	(0%) 0%) 	Mear 1/50	0% (2%)	SD 2/50	0% 
Leukemia: Lymphocyti Overall Incidence #All Organs: Malignant Lymphoma: Overall Incidence #All Organs:	Total <b>Histiocytic, Lym</b> Total	1/50 0/50 1/200 (0.5% phocytic, Mixed 0/50 1/50 4/200 (2%)	(2%) (0%) 5) , NOS, or (0%) (2%) ) 	0/50 Mean 0. Undifferenti 3/50	5% iated Cell (6%) 2% (2%)	SD 1% <b>Type</b> 0/50	(0%)		0/50 0/200 ( 0/50 1/50	(0%) 0%) (0%) (2%) 2%) (0%) (0%)	Mear 1/50	0% (2%)	SD 2/50	0% (4%) .63% (0%)

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

# Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 69 Report Date: 08/04/2016

			Male				Female	
#All Organs: Mesothelioma: Malignant								
		0/50 (0%) 1/50 (2%)	1/50 (2%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	3/200 (1.5%)	Mean 1.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#All Organs: Osteoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#All Organs: Osteosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#All Organs: Osteosarcoma or Osteoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
*Adrenal Cortex: Adenoma								
		3/50 (6%) 1/50 (2%)	2/50 (4%)	2/50 (4%)		0/50 (0%) 0/50 (0%)	1/50 (2%)	2/50 (4%)
Overall Incidence	Total	8/200 (4%)	Mean 4%	SD 1.63%	Total	3/200 (1.5%)	Mean 1.5%	SD 1.91%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

#### Strain: Wistar-Han

Length of Study: CHRONIC

# Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 70 Report Date: 08/04/2016

			Male				Female	
Adrenal Cortex: Carcinoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
Adrenal Medulla: Pheochromocytoma Bei								
		1/49 (2%) 0/50 (0%)	1/50 (2%)	4/50 (8%)		0/49 (0%) 0/50 (0%)	3/50 (6%)	1/49 (2%)
Overall Incidence	Total	6/199 (3.02%)	Mean 3.01%	SD 3.46%	Total	4/198 (2.02%)	Mean 2.01%	SD 2.83%
Adrenal Medulla: Pheochromocytoma Co		1/49 (2%)	0/50 (0%)	0/50 (0%)		0/49 (0%)	0/50 (0%)	0/49 (0%)
		0/50 (0%)	0/30 (078)	0/00 (0/8)		0/50 (0%)	0/00 (078)	0/49 (0/8)
Overall Incidence	Total	1/199 (0.5%)	Mean 0.51%	SD 1.02%	Total	0/198 (0%)	Mean 0%	SD 0%
Adrenal Medulla: Pheochromocytoma Ma	lignant							
		0/49 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/49 (0%) 0/50 (0%)	0/50 (0%)	1/49 (2%)
Overall Incidence	Total	0/199 (0%)	Mean 0%	SD 0%	Total	1/198 (0.51%)	Mean 0.51%	SD 1.02%
*Adrenal Medulla: Pheochromocytoma: Be	enign, Complex	, Malignant, NOS						
		2/49 (4%) 0/50 (0%)	1/50 (2%)	4/50 (8%)		0/49 (0%) 0/50 (0%)	3/50 (6%)	2/49 (4%)
Overall Incidence	Total	7/199 (3.52%)	Mean 3.52%	SD 3.42%	Total	5/198 (2.53%)	Mean 2.52%	SD 3.01%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

# Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 71 Report Date: 08/04/2016

			Male				Female	
#Blood Vessel: Hemangiosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
'Bone Marrow: Hemangiosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#Bone: Osteoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Bone: Osteosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#Bone: Osteosarcoma or Osteoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

# Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 72 Report Date: 08/04/2016

			Male				Female	
#Bone: Sarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
Ɓrain: Glioma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	2/50 (4%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	2/200 (1%)	Mean 1%	SD 2%	Total	0/200 (0%)	Mean 0%	SD 0%
'Brain: Glioma Malignant								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
Brain: Granular Cell Tumor Be								
		1/50 (2%) 0/50 (0%)	3/50 (6%)	0/50 (0%)		1/50 (2%) 0/50 (0%)	1/50 (2%)	2/50 (4%)
Overall Incidence	Total	4/200 (2%)	Mean 2%	SD 2.83%	Total	4/200 (2%)	Mean 2%	SD 1.63%
Brain: Granular Cell Tumor M								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

## Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 73 Report Date: 08/04/2016

			Male				Female	
Brain: Meningioma Malignant								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2	2%)	0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
Brain: Meningioma: Benign, Ma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2	2%)	0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
*Brain: Oligodendroglioma Beni								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0	0%)	0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
'Brain: Oligodendroglioma, Glio								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0	)%)	0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
*Clitoral/Preputial Gland: Carcinoma								
		0/50 (0%) 0/49 (0%)	0/50 (0%)	0/50 (0	)%)	0/50 (0%) 0/50 (0%)	0/49 (0%)	0/50 (0%)
Overall Incidence	Total	0/199 (0%)	Mean 0%	SD 0%	Total	0/199 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

#### Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 74 Report Date: 08/04/2016

			Male				Female	
Clitoral/Preputial Gland: Carcinoma or Adenoma								
		0/50 (0%) 0/49 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/49 (0%)	0/50 (0%)
Overall Incidence	Total	0/199 (0%)	Mean 0%	SD 0%	Total	0/199 (0%)	Mean 0%	SD 0%
'Heart: Schwannoma Benign								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
*Heart: Schwannoma NOS								
		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#Intestine Small: Duodenum: Fibroma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Intestine Small: Duodenum: Leiomyosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 75 Report Date: 08/04/2016

			Male				Female	
#Intestine Small: Jejunum Leiomyoma	::							
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
#Intestine Small: Jejunum Leiomyosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Intestine Small: Site Uns Fibroma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Intestine Small: Site Uns Leiomyoma								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
#Intestine Small: Site Uns Leiomyosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

#### Strain: Wistar-Han Length of Study: CHRONIC

Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 76 Report Date: 08/04/2016

			Male				Female	
Islets, Pancreatic: Adenoma								
		0/50 (0%) 5/50 (10%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/49 (2%)
Overall Incidence	Total	5/200 (2.5%)	Mean 2.5%	SD 5%	Total	1/199 (0.5%)	Mean 0.51%	SD 1.02%
Islets, Pancreatic: Carcinoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/49 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/199 (0%)	Mean 0%	SD 0%
*Islets, Pancreatic: Carcinoma or Adenoma								
		0/50 (0%) 5/50 (10%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/49 (2%)
Overall Incidence	Total	5/200 (2.5%)	Mean 2.5%	SD 5%	Total	1/199 (0.5%)	Mean 0.51%	SD 1.02%
Kidney: Pelvis and Transitic Papilloma	onal Epitheliu	ım:						
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
Kidney: Renal Tubule: Adenoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

# Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 77 Report Date: 08/04/2016

			Male				Female	
Kidney: Renal Tubule: Carcinoma								
		0/50 (0%) 1/50 (2%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
Kidney: Renal Tubule: Carcinoma or Adenoma								
		0/50 (0%) 1/50 (2%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
Kidney: Renal Tubule: Lipoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
Kidney: Renal Tubule: Liposarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
Liver: Cholangioma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	3/50 (6%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	3/200 (1.5%)	Mean 1.5%	SD 3%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
Liver: Hemangioma								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
Liver: Hepatocellular Adenor								
		0/50 (0%) 1/50 (2%)	0/50 (0%)	0/50 (0%)		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
Hepatocellular Carcino	Total	0/50 (0%) 1/50 (2%) 1/200 (0.5%)	0/50 (0%) Mean 0.5%	0/50 (0%) SD 1%	Total	1/50 (2%) 0/50 (0%) 1/200 (0.5%)	0/50 (0%) Mean 0.5%	0/50 (0%) SD 1%
						·····		
Liver:		·····						
Liver:		( )		0/50 (0%)		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Liver: Hepatocellular Carcino		ılar Adenoma, or Hepatok 0/50 (0%)	lastoma			1/50 (2%)	0/50 (0%) Mean 0.5%	
'Liver: Hepatocellular Carcino Dverall Incidence	oma, Hepatocellu Total	llar Adenoma, or Hepatok 0/50 (0%) 1/50 (2%)	lastoma 0/50 (0%)	0/50 (0%)		1/50 (2%) 0/50 (0%)		0/50 (0%)
*Liver: Hepatocellular Carcino Overall Incidence *Lung:	oma, Hepatocellu Total	llar Adenoma, or Hepatok 0/50 (0%) 1/50 (2%)	lastoma 0/50 (0%)	0/50 (0%)		1/50 (2%) 0/50 (0%)		0/50 (0%)

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female			
*Lung: Alveolar/Bronchiolar Carcinoma or Alveolar/Bronchiolar Adenoma										
		3/50 (6%) 0/50 (0%)	1/50 (2%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		
Overall Incidence	Total	5/200 (2.5%)	Mean 2.5%	SD 2.52%	Total	0/200 (0%)	Mean 0%	SD 0%		
#Lymph Node: Hemangioma										
		0/50 (0%) 1/50 (2%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%		
#Lymph Node, Mandibular: Hemangioma										
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%		
Lymph Node, Mesenteric: Hemangioma										
		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%		
⊭Lymph Node, Mesenteric: Hemangiosarcoma										
		2/50 (4%) 0/50 (0%)	2/50 (4%)	3/50 (6%)		0/50 (0%) 0/50 (0%)	2/50 (4%)	1/50 (2%)		
Overall Incidence	Total	7/200 (3.5%)	Mean 3.5%	SD 2.52%	Total	3/200 (1.5%)	Mean 1.5%	SD 1.91%		

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
#Mammary Gland: Adenoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 4/50 (8%)	5/50 (10%)	2/50 (4%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	11/200 (5.5%)	Mean 5.5%	SD 4.43%
Mammary Gland: Carcinoma								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		5/50 (10%) 4/50 (8%)	4/50 (8%)	4/50 (8%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	17/200 (8.5%)	Mean 8.5%	SD 1%
#Mammary Gland: Carcinoma or Adenoma								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		5/50 (10%) 8/50 (16%)	8/50 (16%)	6/50 (12%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	27/200 (13.5%)	Mean 13.5%	SD 3%
Mammary Gland: Fibroadenoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		7/50 (14%) 2/50 (4%)	13/50 (26%)	9/50 (18%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	31/200 (15.5%)	Mean 15.5%	SD 9.15%
#Mammary Gland: Fibroma, Fibroadenoma o	r Adenoma							
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		7/50 (14%) 6/50 (12%)	15/50 (30%)	11/50 (22%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	39/200 (19.5%)	Mean 19.5%	SD 8.23%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## **Toxicology Data Management System** Tumor Incidence for Selected Control Animal Groups Route: INHALATION

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			Male				Female			
#Mammary Gland: Fibroma, Fibroadenoma, Carcinoma, or Adenoma										
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		10/50 (20%) 9/50 (18%)	15/50 (30%)	13/50 (26%)		
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	47/200 (23.5%)	Mean 23.5%	SD 5.51%		
Mesentery: Hemangiosarcoma		0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%)	0/50 (0%)	0/50 (0%)		
		0/50 (0%)	0/30 (078)	0/30 (078)		0/50 (0%)	0/30 (078)	0/30 (078)		
Verall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%		
Mesentery: Lipoma		0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%)	0/50 (0%)	0/50 (0%)		
		0/50 (0%)	0,00 (0,0)	0,00 (0,0)		0/50 (0%)	0,00 (0,0)	0,00 (0,0)		
verall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%		
Mesentery: Schwannoma Malignant										
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		
verall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%		
Nose: Adenoma										
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%		

\*: Denominator is number of animals with tissues examined microscopically

#: Denominator is number of animals necropsied

Vehicle: AIR

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
Nose: Chondroma								
		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
*Nose: Olfactory Neuroblasto								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
Squamous Cell Carcin	oma	0/50 (00/)	1/50 (2%)	0/50 (00/)		0/50 (00/)	0/50 (00/)	0/50 (00/)
	Total	0/50 (0%) 0/50 (0%) 1/200 (0.5%)	Mean 0.5%	0/50 (0%) SD 1%	Total	0/50 (0%) 0/50 (0%) 0/200 (0%)	0/50 (0%) Mean 0%	0/50 (0%) SD 0%
#Oral Cavity (Oral Mucos	sa, Tongue, Phar	0/50 (0%) 1/200 (0.5%) ynx, Tooth, Gingiva):	Mean 0.5%	( ),	Total	0/50 (0%)		
#Oral Cavity (Oral Mucos	sa, Tongue, Phar	0/50 (0%) 1/200 (0.5%)	Mean 0.5%	( ),	Total	0/50 (0%)		
#Oral Cavity (Oral Mucos	sa, Tongue, Phar	0/50 (0%) 1/200 (0.5%) ynx, Tooth, Gingiva): Squamous, or Papilloma 0/50 (0%)	Mean 0.5%	SD 1%	Total Total	0/50 (0%) 0/200 (0%) 0/50 (0%)	Mean 0%	SD 0%
#Oral Cavity (Oral Mucos Squamous Cell Carcin	sa, Tongue, Phar Ioma, Papilloma S Total	0/50 (0%) 1/200 (0.5%) ynx, Tooth, Gingiva): Squamous, or Papilloma 0/50 (0%) 0/50 (0%) 1/200 (0.5%)	Mean 0.5% 1/50 (2%) Mean 0.5%	SD 1% 0/50 (0%) SD 1%		0/50 (0%) 0/200 (0%) 0/50 (0%) 0/50 (0%) 0/200 (0%)	Mean 0% 0/50 (0%) Mean 0%	SD 0% 0/50 (0%) SD 0%
#Oral Cavity (Oral Mucos Squamous Cell Carcin Overall Incidence #Oral Mucosa:	sa, Tongue, Phar Ioma, Papilloma S Total	0/50 (0%) 1/200 (0.5%) ynx, Tooth, Gingiva): Squamous, or Papilloma 0/50 (0%) 0/50 (0%)	Mean 0.5% 1/50 (2%)	SD 1% 0/50 (0%)		0/50 (0%) 0/200 (0%) 0/50 (0%) 0/50 (0%)	Mean 0%	SD 0% 0/50 (0%)

\*: Denominator is number of animals with tissues examined microscopically

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han	Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR		Page: 83 Report Date: 08/04/2016		
Length of Study: CHRONIC	Male		Female		
	Male		i emaie		
*Ovary: Adenoma					
		2/50 (4%) 0/50 (0%)	0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	2/200 (1%)	Mean 1%	SD 2%	
*Ovary:					
Cystadenoma		1/50 (2%)	0/50 (0%)	0/50 (0%)	
		0/50 (0%)			
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	
*Ovary:					
Granulosa Cell Tumor Benign		0/50 (0%)	0/50 (0%)	1/50 (2%)	
		0/50 (0%)	0/30 (0%)	1/30 (2%)	
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	
*Ovary:					
Granulosa Cell Tumor Malignant					
		0/50 (0%) 1/50 (2%)	0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	
*Ovary:					
Granulosa Cell Tumor: Benign, Malignant, NOS		0/50 (0%()	0/50 (00()	1/50 (20/)	
		0/50 (0%) 1/50 (2%)	0/50 (0%)	1/50 (2%)	
Overall Incidence	Total	2/200 (1%)	Mean 1%	SD 1.15%	

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC			Toxico Tumor Incider	Page: 84 Report Date: 08/04/2016				
			Male					
*Ovary: Granulosa-Theca Tumor Mali	qnant							
	5					0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)
Overall Incidence					Total	1/200 (0.5%)	Mean 0.5%	SD 1%
*Ovary: Sex Cord Stromal Tumor, Be							0/50 (00/)	0/50 (00/)
						0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence					Total	0/200 (0%)	Mean 0%	SD 0%
<sup>t</sup> Ovary: Tubulostromal Adenoma						2/50 (4%)	1/50 (2%)	0/50 (0%)
						0/50 (0%)		
Overall Incidence					Total	3/200 (1.5%)	Mean 1.5%	SD 1.91%
*Pancreas: Adenoma								
		0/50 (0%) 1/50 (2%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/49 (0%)
Overall Incidence	Total	2/200 (1%)	Mean 1%	SD 1.15%	Total	0/199 (0%)	Mean 0%	SD 0%
Pancreas: Carcinoma or Adenoma								
		0/50 (0%) 1/50 (2%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/49 (0%)
Overall Incidence	Total	2/200 (1%)	Mean 1%	SD 1.15%	Total	0/199 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
Parathyroid Gland: Adenoma								
		0/44 (0%) 0/39 (0%)	1/49 (2%)	0/43 (0%)		0/39 (0%) 1/42 (2%)	0/46 (0%)	0/47 (0%)
Overall Incidence	Total	1/175 (0.57%)	Mean 0.51%	SD 1.02%	Total	1/174 (0.57%)	Mean 0.6%	SD 1.19%
Pituitary Gland: Pars Dis Adenoma								
		14/50 (28%) 14/50 (28%)	9/50 (18%)	16/49 (33%)		19/50 (38%) 34/50 (68%)	26/50 (52%)	35/50 (70%)
Overall Incidence	Total	53/199 (26.63%)	Mean 26.66%	SD 6.18%	Total	114/200 (57%)	Mean 57%	SD 15.01%
*Pituitary Gland: Pars Dis Carcinoma Overall Incidence	Total	0/50 (0%) 0/50 (0%) 0/199 (0%)	0/50 (0%) Mean 0%	0/49 (0%) SD 0%	Total	1/50 (2%) 0/50 (0%) 1/200 (0.5%)	0/50 (0%) Mean 0.5%	0/50 (0%) SD 1%
Pituitary Gland: Pars Dis	stalis or Unspec	cified Site:						
Carcinoma or Adenom	a							
	a	14/50 (28%) 14/50 (28%)	9/50 (18%)	16/49 (33%)		20/50 (40%) 34/50 (68%)	26/50 (52%)	35/50 (70%)
Carcinoma or Adenom	i <b>a</b> Total	( )	9/50 (18%) Mean 26.66%	16/49 (33%) SD 6.18%	Total	( )	26/50 (52%) Mean 57.5%	35/50 (70%) SD 14.18%
Carcinoma or Adenom Overall Incidence	Total	14/50 (28%)		(	Total	34/50 (68%)	, , ,	× ,
Carcinoma or Adenom Overall Incidence *Pituitary Gland: Pars Int	Total	14/50 (28%)		(	Total	34/50 (68%)	, , ,	× ,

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
Pituitary Gland: Pars Interm Carcinoma or Adenoma	edia:							
		1/50 (2%) 1/50 (2%)	2/50 (4%)	2/49 (4%)		0/50 (0%) 1/50 (2%)	1/50 (2%)	1/50 (2%)
Overall Incidence	Total	6/199 (3.02%)	Mean 3.02%	SD 1.18%	Total	3/200 (1.5%)	Mean 1.5%	SD 1%
Prostate: Adenoma								
		1/50 (2%) 0/50 (0%)	0/50 (0%)	1/50 (2%)				
Overall Incidence	Total	2/200 (1%)	Mean 1%	SD 1.15%				
Prostate: Carcinoma								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)				
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%				
Prostate: Carcinoma or Adenoma								
		1/50 (2%) 0/50 (0%)	1/50 (2%)	1/50 (2%)				
Overall Incidence	Total	3/200 (1.5%)	Mean 1.5%	SD 1%				
Salivary Glands: Adenoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

## Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
Salivary Glands: Carcinoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
Salivary Glands: Carcinoma or Adenoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
Salivary Glands: Myoepithelioma								
		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
Salivary Glands: Schwannoma Malignant								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
≭Seminal Vesicle: Adenoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)				
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%				

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
#Skeletal Muscle: Hemangiosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%	b)	0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skeletal Muscle: Sarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%	<b>b</b> )	0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Basal Cell Adenoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%	b)	0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Basal Cell Adenoma or	Basosquamous	Tumor Benign						
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Basal Cell Adenoma, B	asosquamous Ti	umor Benign, or Trich	oepithelioma					
	-	0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%	b)	0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

## Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
#Skin: Basal Cell Carcinoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Basal Cell Carcinoma c	or Basosquamo	us Tumor (malignant or N	105)					
	Dusosquamor	0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Basal Cell Carcinoma, I NOS), or Trichoepitheli	Basal Cell Aden ioma	oma, Basosquamous Tu 0/50 (0%)	mor (benign, maligna 0/50 (0%)	nt or 1/50 (2%)		0/50 (0%)	0/50 (0%)	0/50 (0%)
Basal Cell Carcinoma,	Basal Cell Aden ioma Total	· ·			Total	0/50 (0%) 0/50 (0%) 0/200 (0%)	0/50 (0%) Mean 0%	0/50 (0%) SD 0%
Basal Cell Carcinoma, NOS), or Trichoepitheli Overall Incidence #Skin: Basal or Sq. Cell Carcin	Total	0/50 (0%) 0/50 (0%) 1/200 (0.5%)	0/50 (0%) Mean 0.5% B), Basal Cell Adenon	1/50 (2%) SD 1%	Total	0/50 (0%)	()	
Basal Cell Carcinoma, NOS), or Trichoepitheli Overall Incidence #Skin: Basal or Sq. Cell Carcin	Total	0/50 (0%) 0/50 (0%) 1/200 (0.5%)	0/50 (0%) Mean 0.5% B), Basal Cell Adenon	1/50 (2%) SD 1%	Total	0/50 (0%)	()	
Basal Cell Carcinoma, NOS), or Trichoepitheli Overall Incidence #Skin: Basal or Sq. Cell Carcin Adenoma, Papilloma, S	Total noma, Carcinom Sq Papilloma, Ke Total	0/50 (0%) 0/50 (0%) 1/200 (0.5%) a, Basosq. Tumor (M or l tratoacanthoma, Trichoej 1/50 (2%) 1/50 (2%) 7/200 (3.5%)	0/50 (0%) Mean 0.5% B), Basal Cell Adenon pithelioma 3/50 (6%) Mean 3.5%	1/50 (2%) SD 1% na,	Total Total	0/50 (0%) 0/200 (0%) 0/50 (0%)	Mean 0%	SD 0%
Basal Cell Carcinoma, NOS), or Trichoepitheli Overall Incidence #Skin: Basal or Sq. Cell Carcin Adenoma, Papilloma, S	Total noma, Carcinom Sq Papilloma, Ke Total	0/50 (0%) 0/50 (0%) 1/200 (0.5%) a, Basosq. Tumor (M or l tratoacanthoma, Trichoej 1/50 (2%) 1/50 (2%)	0/50 (0%) Mean 0.5% B), Basal Cell Adenon pithelioma 3/50 (6%) Mean 3.5%	1/50 (2%) SD 1% na, 2/50 (4%)		0/50 (0%) 0/200 (0%) 0/50 (0%) 0/50 (0%)	Mean 0% 0/50 (0%)	SD 0% 0/50 (0%)
Basal Cell Carcinoma, NOS), or Trichoepitheli Overall Incidence #Skin: Basal or Sq. Cell Carcin Adenoma, Papilloma, S Overall Incidence	Total noma, Carcinom Sq Papilloma, Ke Total	0/50 (0%) 0/50 (0%) 1/200 (0.5%) a, Basosq. Tumor (M or l tratoacanthoma, Trichoej 1/50 (2%) 1/50 (2%) 7/200 (3.5%)	0/50 (0%) Mean 0.5% B), Basal Cell Adenon pithelioma 3/50 (6%) Mean 3.5%	1/50 (2%) SD 1% na, 2/50 (4%)		0/50 (0%) 0/200 (0%) 0/50 (0%) 0/50 (0%)	Mean 0% 0/50 (0%)	SD 0% 0/50 (0%)

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 90 Report Date: 08/04/2016

			Male				Female	
#Skin: Fibroma, Fibrosarcoma, S	Sarcoma, Myx	oma, Myxosarcoma, or F	ibrous Histiocytoma					
		2/50 (4%) 1/50 (2%)	2/50 (4%)	2/50 (4%)		2/50 (4%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	7/200 (3.5%)	Mean 3.5%	SD 1%	Total	2/200 (1%)	Mean 1%	SD 2%
≇Skin: Fibrosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
Fibrosarcoma, Sarcoma, Overall Incidence	Total	a, or Fibrous Histiocytom 0/50 (0%) 0/50 (0%) 2/200 (1%)	1/50 (2%) Mean 1%	1/50 (2%) SD 1.15%	Total	0/50 (0%) 0/50 (0%) 0/200 (0%)	0/50 (0%) Mean 0%	0/50 (0%) SD 0%
Skin: Fibrous Histiocytoma		0/50 (0%)	1/50 (2%)	0/50 (0%)		0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/50 (0%) 1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/50 (0%) 0/200 (0%)	Mean 0%	SD 0%
∕Skin: Hamartoma		0/50 (0%)	0/50 (001)	0/50 (00/)		0/50 (0%)	0/50 (00()	0/50 (0%)
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

# Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 91 Report Date: 08/04/2016

			Male				Female	
#Skin: Hemangiosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
≇Skin: Keratoacanthoma								
		1/50 (2%) 1/50 (2%)	3/50 (6%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	6/200 (3%)	Mean 3%	SD 2%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Lipoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
≮Skin: Liposarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
≭Skin: Myxoma								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 92 Report Date: 08/04/2016

			Male				Female	
#Skin:								
Neurofibrosarcoma or Sch	nwannoma (n	nalignant or NOS)						
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Neurofibrosarcoma, Neuro	fibroma or 9	Schwannoma (bonian ma	lignant or NOS)					
Neuronbiosarcoma, Neuro		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Schwannoma Malignant								
-		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Squamous Cell Carcinoma	a							
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Squamous Cell Carcinoma or Carcinoma	a, Basal Cell	Carcinoma, Basosquamo	us Tumor (malignant o	or NOS),				
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 93 Report Date: 08/04/2016

			Male				Female	
#Skin: Squamous Cell Papillom	na							
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Skin: Squamous Cell Papillom								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
		1/50 (2%)	3/50 (6%)	1/50 (2%)		0/50 (0%)	0/50 (0%)	0/50 (0%)
	Total	1/50 (2%) 6/200 (3%)	Mean 3%	SD 2%	Total	0/50 (0%) 0/200 (0%)	Mean 0%	0/50 (0%) SD 0%
#Skin:		1/50 (2%) 6/200 (3%)	(	SD 2%		0/50 (0%) 0/200 (0%)		· · · · ·
Overall Incidence #Skin: Squamous Cell Papillon		1/50 (2%) 6/200 (3%)	Mean 3%	SD 2%		0/50 (0%) 0/200 (0%)		· · · · ·
#Skin: Squamous Cell Papillon		1/50 (2%) 6/200 (3%) 7 Keratoacanthoma 1/50 (2%) 1/50 (2%) 6/200 (3%)	Mean 3% 3/50 (6%) Mean 3%	SD 2% 1/50 (2%) SD 2%	Total	0/50 (0%) 0/200 (0%) 0/50 (0%) 0/50 (0%) 0/200 (0%)	Mean 0%	SD 0%
#Skin: Squamous Cell Papillon Overall Incidence	na, Papilloma, o	1/50 (2%) 6/200 (3%) 7 Keratoacanthoma 1/50 (2%) 1/50 (2%) 6/200 (3%)	Mean 3% 3/50 (6%)	SD 2% 1/50 (2%) SD 2%	Total	0/50 (0%) 0/200 (0%) 0/50 (0%) 0/50 (0%) 0/200 (0%)	Mean 0%	SD 0% 0/50 (0%)
#Skin: Squamous Cell Papillon Overall Incidence #Skin: Sebaceous Gland:	na, Papilloma, o	1/50 (2%) 6/200 (3%) 7 Keratoacanthoma 1/50 (2%) 1/50 (2%) 6/200 (3%)	Mean 3% 3/50 (6%) Mean 3%	SD 2% 1/50 (2%) SD 2%	Total	0/50 (0%) 0/200 (0%) 0/50 (0%) 0/50 (0%) 0/200 (0%)	Mean 0%	SD 0% 0/50 (0%)

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
#Skin: Sebaceous Gland: Carcinoma or Adenoma								
		0/50 (0%) 1/50 (2%)	1/50 (2%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	2/200 (1%)	Mean 1%	SD 1.15%	Total	0/200 (0%)	Mean 0%	SD 0%
*Spleen: Hemangiosarcoma								
		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#Stomach, Forestomach: Fibrosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Stomach, Forestomach: Leiomyoma								
-		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
#Stomach, Forestomach: Leiomyosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

#### Strain: Wistar-Han Length of Study: CHRONIC

#### Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
#Stomach, Forestomach: Sarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	0/200 (0%)	Mean 0%	SD 0%
#Stomach, Forestomach: Squamous Cell Carcinoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Stomach, Forestomach: Squamous Cell Carcinoma (	or Papillom	a Squamous 0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
/Stomach, Forestomach: Squamous Cell Papilloma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	1/50 (2%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	1/200 (0.5%)	Mean 0.5%	SD 1%
#Stomach, Glandular: Fibrosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 96 Report Date: 08/04/2016

			Male				Female	
Stomach, Glandular: Leiomyosarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (	0%)		(0%) 0/50 (0%) (0%)	1/50 (2%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Tot	al 1/200 (0.5%	%) Mean 0.5%	SD 1%
Stomach, Glandular: Sarcoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2	2%)		(0%) 0/50 (0%) (0%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Tota	al 0/200 (0%	Mean 0%	SD 0%
Testes: Adenoma								
		6/50 (12%) 0/50 (0%)	3/50 (6%)	2/50 (4	4%)			
Overall Incidence	Total	11/200 (5.5%)	Mean 5.5%	SD 5%				
Testes: Hemangiosarcoma								
		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (	0%)			
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%				
Thymus: Sarcoma								
		0/41 (0%) 0/48 (0%)	0/47 (0%)	0/40 (0	0%)	·	(0%) 0/49 (0%) (0%)	0/48 (0%)
Overall Incidence	Total	0/176 (0%)	Mean 0%	SD 0%	Tot	al 0/191 (0%	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

#### Page: 97 Report Date: 08/04/2016

			Male				Female	
Thymus: Thymoma Benign								
		3/41 (7%) 3/48 (6%)	1/47 (2%)	1/40 (3%)		6/46 (13%) 8/48 (17%)	0/49 (0%)	5/48 (10%)
Overall Incidence	Total	8/176 (4.55%)	Mean 4.55%	SD 2.62%	Total	19/191 (9.95%)	Mean 10.03%	SD 7.16%
Thymus: Thymoma: Benign, Malignant		3/41 (7%)	1/47 (2%)	1/40 (3%)		6/46 (13%)	0/49 (0%)	5/48 (10%)
		3/48 (6%)	1/47 (270)	1/40 (378)		8/48 (17%)	0/49 (078)	5/48 (1078)
Overall Incidence	Total	8/176 (4.55%)	Mean 4.55%	SD 2.62%	Total	19/191 (9.95%)	Mean 10.03%	SD 7.16%
Thyroid Gland: Carcinoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		1/50 (2%) 0/49 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	1/199 (0.5%)	Mean 0.5%	SD 1%
Thyroid Gland: C-Cell: Adenoma								
		5/50 (10%) 3/50 (6%)	6/50 (12%)	7/50 (14%)		4/50 (8%) 7/49 (14%)	2/50 (4%)	3/50 (6%)
Overall Incidence	Total	21/200 (10.5%)	Mean 10.5%	SD 3.42%	Total	16/199 (8.04%)	Mean 8.07%	SD 4.45%
Thyroid Gland: C-Cell: Carcinoma								
		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		1/50 (2%) 0/49 (0%)	1/50 (2%)	0/50 (0%)
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	Total	2/199 (1.01%)	Mean 1%	SD 1.15%

\*: Denominator is number of animals with tissues examined microscopically

Contract/Lab: All Laboratories

Species: RATS

Strain: Wistar-Han Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
Thyroid Gland: C-Cell: Carcinoma or Adenoma								
		6/50 (12%) 3/50 (6%)	6/50 (12%)	7/50 (14%)		5/50 (10%) 7/49 (14%)	3/50 (6%)	3/50 (6%)
Overall Incidence	Total	22/200 (11%)	Mean 11%	SD 3.46%	Total	18/199 (9.05%)	Mean 9.07%	SD 3.95%
Thyroid Gland: Follicular Cel Adenoma	1:							
		0/50 (0%) 0/50 (0%)	2/50 (4%)	1/50 (2%)		1/50 (2%) 0/49 (0%)	2/50 (4%)	1/50 (2%)
Overall Incidence	Total	3/200 (1.5%)	Mean 1.5%	SD 1.91%	Total	4/199 (2.01%)	Mean 2%	SD 1.63%
Thyroid Gland: Follicular Cel Carcinoma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		1/50 (2%) 1/49 (2%)	0/50 (0%)	1/50 (2%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	3/199 (1.51%)	Mean 1.51%	SD 1.01%
Thyroid Gland: Follicular Cel Carcinoma or Adenoma	l:							
		0/50 (0%) 0/50 (0%)	2/50 (4%)	1/50 (2%)		2/50 (4%) 1/49 (2%)	2/50 (4%)	2/50 (4%)
Overall Incidence	Total	3/200 (1.5%)	Mean 1.5%	SD 1.91%	Total	7/199 (3.52%)	Mean 3.51%	SD 0.98%
Urinary Bladder: Carcinoma or Papilloma								
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC	;			ogy Data Management ce for Selected Control A Route: INHALATION Vehicle: AIR			Page: 99 Report Da	<b>te:</b> 08/04/2016
			Male				Female	
*Urinary Bladder: Papilloma		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	Total	0/200 (0%)	Mean 0%	SD 0%
#Uterus: Adenoma						0/50 (0%) 1/50 (2%)	0/50 (0%)	0/50 (0%)
Overall Incidence					Total	1/200 (0.5%)	Mean 0.5%	SD 1%
#Uterus: Carcinoma						3/50 (6%) 1/50 (2%)	2/50 (4%)	1/50 (2%)
Overall Incidence					Total	7/200 (3.5%)	Mean 3.5%	SD 1.91%
#Uterus: Granular Cell Tumor Benig	In					0/50 (0%) 1/50 (2%)	0/50 (0%)	0/50 (0%)
Overall Incidence					Total	1/200 (0.5%)	Mean 0.5%	SD 1%
#Uterus: Hemangiosarcoma						1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)

Total

1/200 (0.5%)

SD 1%

Mean 0.5%

..... \*: Denominator is number of animals with tissues examined microscopically

#: Denominator is number of animals necropsied

**Overall Incidence** 

Version: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC	Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR	Page: 100 Report Date: 08/04/2016				
	Male	Female				
#Uterus:						
Leiomyosarcoma		1/50 (2%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%		
tUterus:						
Malignant Mixed Mullerian Tumor		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)		
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%		
tUterus: Polyp Stromal		2/50 (4%)	9/50 (18%)	5/50 (10%)		
		6/50 (12%)	9/30 (1078)	3/30 (1078)		
Overall Incidence	Total	22/200 (11%)	Mean 11%	SD 5.77%		
fUterus: Sarcoma Stromal						
		1/50 (2%) 1/50 (2%)	1/50 (2%)	2/50 (4%)		
Overall Incidence	Total	5/200 (2.5%)	Mean 2.5%	SD 1%		
#Uterus: Sarcoma Stromal or Polyp Stromal						
		3/50 (6%) 7/50 (14%)	10/50 (20%)	6/50 (12%)		
Overall Incidence	Total	26/200 (13%)	Mean 13%	SD 5.77%		

/ersion: Aug2016 Contract/Lab: All Laboratories Species: RATS Strain: Wistar-Han Length of Study: CHRONIC	Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR	Page: 101 Report Date: 08/04/2016			
	Male	Female			
ℓUterus: Schwannoma Malignant					
		0/50 (0%) 2/50 (4%)	1/50 (2%)	0/50 (0%)	
Overall Incidence	Total	3/200 (1.5%)	Mean 1.5%	SD 1.91%	
Uterus:					
Squamous Cell Papilloma		0/50 (0%) 0/50 (0%)	0/50 (0%)	1/50 (2%)	
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	
Vagina: Fibrosarcoma					
		0/50 (0%) 1/50 (2%)	0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	1/200 (0.5%)	Mean 0.5%	SD 1%	
Vagina:					
Leiomyoma		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	
ℓVagina: Polyp					
		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)	
Overall Incidence	Total	0/200 (0%)	Mean 0%	SD 0%	

Version: A	ug2016
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Contract/Lab: All Laboratories

Species: RATS

## Strain: Wistar-Han

Length of Study: CHRONIC

## Toxicology Data Management System Tumor Incidence for Selected Control Animal Groups Route: INHALATION Vehicle: AIR

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			Male				Female	
≭Zymbal's Gland: Carcinoma								
		0/50 (0%) 1/50 (2%)	0/50 (0%)	2/50 (4%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	3/200 (1.5%)	Mean 1.5%	SD 1.91%	Total	0/200 (0%)	Mean 0%	SD 0%
Zymbal's Gland: Carcinoma or Adenoma								
		0/50 (0%) 1/50 (2%)	0/50 (0%)	2/50 (4%)		0/50 (0%) 0/50 (0%)	0/50 (0%)	0/50 (0%)
Overall Incidence	Total	3/200 (1.5%)	Mean 1.5%	SD 1.91%	Total	0/200 (0%)	Mean 0%	SD 0%

\*: Denominator is number of animals with tissues examined microscopically