

Experiment Number: 20614 - 01
Test Type: CHRONIC
Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS
Perfluorooctanoic Acid
CAS Number: 335-67-1

Date Report Requested: 07/25/2018
Time Report Requested: 16:22:31
First Dose M/F: 10/27/08 / 10/28/08
Lab: BAT

Custom Rpt (Litter-Based) -- 0-0, 150-300, 300-1000

NTP Study Number:	C20614		
Lock Date:	01/10/2012		
Cage Range:	ALL		
Date Range:	ALL		
Reasons For Removal:	25021 TSAC	25020 NATD	25019 MSAC
	25016 Aborted		
Removal Date Range:	ALL		
Treatment Groups:	Include 002 0/0 ppm	Include 006 150/300 ppm	Include 010 300/1000 ppm
Study Gender:	Both		
TDMSE Version:	2.5.0.0_sfh		
PWG Approval Date:	07/25/2018		

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**FOR ALL DOSES THE TUMOR RATES IN THE FOLLOWING TISSUES/ORGANS ARE BASED ON NUMBER OF TISSUES EXAMINED.
IN OTHER TISSUES/ORGANS RATES ARE BASED ON THE NUMBER OF ANIMALS NECROPSIED.**

Adrenal Cortex
Adrenal Medulla
Islets, Pancreatic
Liver
Pancreas
Pituitary Gland
Thyroid Gland

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SUMMARY OF STATISTICALLY SIGNIFICANT ($P \leq .05$) RESULTS IN THE ANALYSIS OF PERFLUOROOCCTANOIC ACID

FEMALE RATS

Organ

Liver

Mammary Gland

Pancreas

Pituitary Gland: Pars Distalis or Unspecified Site

All Organs

Morphology

Hepatocellular Carcinoma

Fibroadenoma

Fibroma, Fibroadenoma or Adenoma

Fibroma, Fibroadenoma, Carcinoma, or Adenoma

Adenoma

Carcinoma or Adenoma

Adenoma

Benign Tumors

Malignant Tumors

Malignant and Benign Tumors

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Adrenal Cortex			
Adenoma			
<hr/>			
TUMOR RATES			
OVERALL (a)	2/50 (4%)	1/50 (2%)	0/50 (0%)
LITTERS (b)	2/32 (6%)	1/29 (3%)	0/30 (0%)
POLY-3 RATE (c)	2/37.06	1/41.44	0/37.22
POLY-3 PERCENT (g)	5.4%	2.4%	0%
TERMINAL (d)	1/23 (4%)	1/32 (3%)	0/23 (0%)
FIRST INCIDENCE	676	744 (T)	---
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.192N	P=0.461N	P=0.235N
POLY 1.5	P=0.187N	P=0.478N	P=0.235N
POLY 6	P=0.199N	P=0.437N	P=0.237N
RAO-SCOTT	P=0.225N	P=0.481N	P=0.273N
LITTER C-A/FISHERS	P=0.192N	P=0.537N	P=0.262N

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Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Adrenal Medulla			
Pheochromocytoma Benign			
TUMOR RATES			
OVERALL (a)	1/50 (2%)	4/50 (8%)	1/50 (2%)
LITTERS (b)	1/32 (3%)	4/29 (14%)	1/30 (3%)
POLY-3 RATE (c)	1/36.81	4/41.44	1/37.45
POLY-3 PERCENT (g)	2.7%	9.7%	2.7%
TERMINAL (d)	1/23 (4%)	4/32 (13%)	0/23 (0%)
FIRST INCIDENCE	744 (T)	744 (T)	683
STATISTICAL TESTS			
POLY 3	P=0.475N	P=0.216	P=0.758N
POLY 1.5	P=0.475N	P=0.198	P=0.758N
POLY 6	P=0.479N	P=0.242	P=0.758N
RAO-SCOTT	P=0.478N	P=0.231	P=0.718N
LITTER C-A/FISHERS	P=0.499N	P=0.148	P=0.738

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Adrenal Medulla			
Pheochromocytoma: Benign, Complex, Malignant, NOS			
<hr/>			
TUMOR RATES			
OVERALL (a)	1/50 (2%)	4/50 (8%)	2/50 (4%)
LITTERS (b)	1/32 (3%)	4/29 (14%)	2/30 (7%)
POLY-3 RATE (c)	1/36.81	4/41.44	2/37.45
POLY-3 PERCENT (g)	2.7%	9.7%	5.3%
TERMINAL (d)	1/23 (4%)	4/32 (13%)	1/23 (4%)
FIRST INCIDENCE	744 (T)	744 (T)	683
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.575	P=0.216	P=0.506
POLY 1.5	P=0.574	P=0.198	P=0.504
POLY 6	P=0.573	P=0.242	P=0.507
RAO-SCOTT	P=0.544	P=0.217	P=0.473
LITTER C-A/FISHERS	P=0.547	P=0.148	P=0.475

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Islets, Pancreatic Adenoma			
TUMOR RATES			
OVERALL (a)	1/50 (2%)	1/50 (2%)	2/50 (4%)
LITTERS (b)	1/32 (3%)	1/29 (3%)	2/30 (7%)
POLY-3 RATE (c)	1/36.81	1/41.44	2/37.41
POLY-3 PERCENT (g)	2.7%	2.4%	5.4%
TERMINAL (d)	1/23 (4%)	1/32 (3%)	1/23 (4%)
FIRST INCIDENCE	744 (T)	744 (T)	695
STATISTICAL TESTS			
POLY 3	P=0.393	P=0.734N	P=0.506
POLY 1.5	P=0.397	P=0.746N	P=0.504
POLY 6	P=0.387	P=0.716N	P=0.506
RAO-SCOTT	P=0.383	P=0.701N	P=0.478
LITTER C-A/FISHERS	P=0.381	P=0.729	P=0.475

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Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
<hr/>			
Liver			
Hepatocellular Adenoma			
<hr/>			
TUMOR RATES			
OVERALL (a)	2/50 (4%)	0/50 (0%)	3/50 (6%)
LITTERS (b)	2/32 (6%)	0/29 (0%)	3/30 (10%)
POLY-3 RATE (c)	2/36.81	0/41.44	3/37.63
POLY-3 PERCENT (g)	5.4%	0%	8%
TERMINAL (d)	2/23 (9%)	0/32 (0%)	2/23 (9%)
FIRST INCIDENCE	744 (T)	---	624
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.287	P=0.211N	P=0.510
POLY 1.5	P=0.294	P=0.223N	P=0.507
POLY 6	P=0.276	P=0.196N	P=0.512
RAO-SCOTT	P=0.322	P=0.251N	P=0.508
LITTER C-A/FISHERS	P=0.284	P=0.271N	P=0.469

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
<hr/>			
Liver			
Hepatocellular Carcinoma			
<hr/>			
TUMOR RATES			
OVERALL (a)	1/50 (2%)	0/50 (0%)	4/50 (8%)
LITTERS (b)	1/32 (3%)	0/29 (0%)	4/30 (13%)
POLY-3 RATE (c)	1/36.81	0/41.44	4/37.22
POLY-3 PERCENT (g)	2.7%	0%	10.8%
TERMINAL (d)	1/23 (4%)	0/32 (0%)	4/23 (17%)
FIRST INCIDENCE	744 (T)	---	744 (T)
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.047*	P=0.476N	P=0.179
POLY 1.5	P=0.050*	P=0.487N	P=0.180
POLY 6	P=0.043*	P=0.461N	P=0.177
RAO-SCOTT	P=0.089	P=0.524N	P=0.233
LITTER C-A/FISHERS	P=0.048*	P=0.525N	P=0.158

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
<hr/>			
Liver			
Hepatocellular Carcinoma or Hepatocellular Adenoma			
<hr/>			
TUMOR RATES			
OVERALL (a)	3/50 (6%)	0/50 (0%)	6/50 (12%)
LITTERS (b)	3/32 (9%)	0/29 (0%)	6/30 (20%)
POLY-3 RATE (c)	3/36.81	0/41.44	6/37.63
POLY-3 PERCENT (g)	8.2%	0%	15.9%
TERMINAL (d)	3/23 (13%)	0/32 (0%)	5/23 (22%)
FIRST INCIDENCE	744 (T)	---	624
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.064	P=0.098N	P=0.249
POLY 1.5	P=0.068	P=0.107N	P=0.247
POLY 6	P=0.057	P=0.087N	P=0.249
RAO-SCOTT	P=0.093	P=0.126N	P=0.269
LITTER C-A/FISHERS	P=0.064	P=0.138N	P=0.205

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Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
<hr/>			
Liver			
Hepatocellular Carcinoma, Hepatocellular Adenoma, or Hepatoblastoma			
<hr/>			
TUMOR RATES			
OVERALL (a)	3/50 (6%)	0/50 (0%)	6/50 (12%)
LITTERS (b)	3/32 (9%)	0/29 (0%)	6/30 (20%)
POLY-3 RATE (c)	3/36.81	0/41.44	6/37.63
POLY-3 PERCENT (g)	8.2%	0%	15.9%
TERMINAL (d)	3/23 (13%)	0/32 (0%)	5/23 (22%)
FIRST INCIDENCE	744 (T)	---	624
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.064	P=0.098N	P=0.249
POLY 1.5	P=0.068	P=0.107N	P=0.247
POLY 6	P=0.057	P=0.087N	P=0.249
RAO-SCOTT	P=0.093	P=0.126N	P=0.269
LITTER C-A/FISHERS	P=0.064	P=0.138N	P=0.205

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Mammary Gland Carcinoma			
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TUMOR RATES	#	#	#
OVERALL (a)	3/50 (6%)	5/50 (10%)	4/50 (8%)
LITTERS (b)	3/32 (9%)	4/29 (14%)	4/30 (13%)
POLY-3 RATE (c)	3/37.73	5/43.37	4/37.85
POLY-3 PERCENT (g)	8%	11.5%	10.6%
TERMINAL (d)	2/23 (9%)	1/32 (3%)	2/23 (9%)
FIRST INCIDENCE	323	351	638
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.501	P=0.435	P=0.502
POLY 1.5	P=0.507	P=0.399	P=0.500
POLY 6	P=0.491	P=0.486	P=0.505
RAO-SCOTT	P=0.487	P=0.433	P=0.487
LITTER C-A/FISHERS	P=0.448	P=0.443	P=0.463

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
 TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Mammary Gland Carcinoma or Adenoma			
TUMOR RATES	#	#	#
OVERALL (a)	4/50 (8%)	6/50 (12%)	5/50 (10%)
LITTERS (b)	4/32 (13%)	5/29 (17%)	5/30 (17%)
POLY-3 RATE (c)	4/37.73	6/43.37	5/37.85
POLY-3 PERCENT (g)	10.6%	13.8%	13.2%
TERMINAL (d)	3/23 (13%)	2/32 (6%)	3/23 (13%)
FIRST INCIDENCE	323	351	638
STATISTICAL TESTS			
POLY 3	P=0.496	P=0.459	P=0.502
POLY 1.5	P=0.503	P=0.418	P=0.500
POLY 6	P=0.484	P=0.518	P=0.506
RAO-SCOTT	P=0.480	P=0.449	P=0.482
LITTER C-A/FISHERS	P=0.446	P=0.435	P=0.457

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TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Mammary Gland Fibroadenoma			
TUMOR RATES	#	#	#
OVERALL (a)	21/50 (42%)	27/50 (54%)	12/50 (24%)
LITTERS (b)	17/32 (53%)	20/29 (69%)	11/30 (37%)
POLY-3 RATE (c)	21/41.36	27/45.18	12/40.11
POLY-3 PERCENT (g)	50.8%	59.8%	29.9%
TERMINAL (d)	10/23 (44%)	17/32 (53%)	3/23 (13%)
FIRST INCIDENCE	312	322	491
STATISTICAL TESTS			
POLY 3	P=0.013N*	P=0.262	P=0.040N*
POLY 1.5	P=0.012N*	P=0.212	P=0.040N*
POLY 6	P=0.016N*	P=0.333	P=0.041N*
RAO-SCOTT	P=0.020N*	P=0.274	P=0.052N
LITTER C-A/FISHERS	P=0.063N	P=0.158	P=0.148N

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Mammary Gland Fibroma, Fibroadenoma or Adenoma			
TUMOR RATES	#	#	#
OVERALL (a)	22/50 (44%)	27/50 (54%)	12/50 (24%)
LITTERS (b)	17/32 (53%)	20/29 (69%)	11/30 (37%)
POLY-3 RATE (c)	22/41.36	27/45.18	12/40.11
POLY-3 PERCENT (g)	53.2%	59.8%	29.9%
TERMINAL (d)	11/23 (48%)	17/32 (53%)	3/23 (13%)
FIRST INCIDENCE	312	322	491
STATISTICAL TESTS			
POLY 3	P=0.008N**	P=0.342	P=0.023N*
POLY 1.5	P=0.007N**	P=0.281	P=0.024N*
POLY 6	P=0.010N**	P=0.424	P=0.024N*
RAO-SCOTT	P=0.014N*	P=0.353	P=0.036N*
LITTER C-A/FISHERS	P=0.063N	P=0.158	P=0.148N

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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Mammary Gland			
Fibroma, Fibroadenoma, Carcinoma, or Adenoma			
TUMOR RATES	#	#	#
OVERALL (a)	25/50 (50%)	31/50 (62%)	15/50 (30%)
LITTERS (b)	18/32 (56%)	22/29 (76%)	12/30 (40%)
POLY-3 RATE (c)	25/42.28	31/47.08	15/40.48
POLY-3 PERCENT (g)	59.1%	65.8%	37.1%
TERMINAL (d)	13/23 (57%)	18/32 (56%)	5/23 (22%)
FIRST INCIDENCE	312	322	491
STATISTICAL TESTS			
POLY 3	P=0.010N**	P=0.328	P=0.031N*
POLY 1.5	P=0.009N**	P=0.244	P=0.031N*
POLY 6	P=0.013N*	P=0.448	P=0.030N*
RAO-SCOTT	P=0.022N*	P=0.354	P=0.054N
LITTER C-A/FISHERS	P=0.056N	P=0.090	P=0.153N

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TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Pancreas Adenoma			
TUMOR RATES			
OVERALL (a)	0/50 (0%)	0/50 (0%)	3/50 (6%)
LITTERS (b)	0/32 (0%)	0/29 (0%)	3/30 (10%)
POLY-3 RATE (c)	0/36.81	0/41.44	3/37.48
POLY-3 PERCENT (g)	0%	0%	8%
TERMINAL (d)	0/23 (0%)	0/32 (0%)	2/23 (9%)
FIRST INCIDENCE	---	---	673
STATISTICAL TESTS			
POLY 3	P=0.027*	(e)	P=0.121
POLY 1.5	P=0.028*	(e)	P=0.120
POLY 6	P=0.026*	(e)	P=0.120
RAO-SCOTT	P=0.084	(e)	P=0.215
LITTER C-A/FISHERS	P=0.028*	(e)	P=0.107

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Route: DOSED FEED
Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS
Perfluorooctanoic Acid
CAS Number: 335-67-1

Date Report Requested: 07/25/2018
Time Report Requested: 16:22:31
First Dose M/F: 10/27/08 / 10/28/08
Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Pancreas Carcinoma			
TUMOR RATES			
OVERALL (a)	0/50 (0%)	0/50 (0%)	2/50 (4%)
LITTERS (b)	0/32 (0%)	0/29 (0%)	2/30 (7%)
POLY-3 RATE (c)	0/36.81	0/41.44	2/37.86
POLY-3 PERCENT (g)	0%	0%	5.3%
TERMINAL (d)	0/23 (0%)	0/32 (0%)	0/23 (0%)
FIRST INCIDENCE	---	---	574
STATISTICAL TESTS			
POLY 3	P=0.090	(e)	P=0.243
POLY 1.5	P=0.091	(e)	P=0.241
POLY 6	P=0.088	(e)	P=0.244
RAO-SCOTT	P=0.178	(e)	P=0.340
LITTER C-A/FISHERS	P=0.087	(e)	P=0.230

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Pancreas Carcinoma or Adenoma			
TUMOR RATES			
OVERALL (a)	0/50 (0%)	0/50 (0%)	5/50 (10%)
LITTERS (b)	0/32 (0%)	0/29 (0%)	5/30 (17%)
POLY-3 RATE (c)	0/36.81	0/41.44	5/38.12
POLY-3 PERCENT (g)	0%	0%	13.1%
TERMINAL (d)	0/23 (0%)	0/32 (0%)	2/23 (9%)
FIRST INCIDENCE	---	---	574
STATISTICAL TESTS			
POLY 3	P=0.003**	(e)	P=0.032*
POLY 1.5	P=0.003**	(e)	P=0.032*
POLY 6	P=0.002**	(e)	P=0.033*
RAO-SCOTT	P=0.018*	(e)	P=0.086
LITTER C-A/FISHERS	P=0.003**	(e)	P=0.022*

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

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Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Pituitary Gland: Pars Distalis or Unspecified Site Adenoma			
TUMOR RATES			
OVERALL (a)	22/50 (44%)	13/50 (26%)	5/50 (10%)
LITTERS (b)	17/32 (53%)	11/29 (38%)	5/30 (17%)
POLY-3 RATE (c)	22/39.54	13/42.16	5/38.28
POLY-3 PERCENT (g)	55.6%	30.8%	13.1%
TERMINAL (d)	11/23 (48%)	9/32 (28%)	2/23 (9%)
FIRST INCIDENCE	621	622	589
STATISTICAL TESTS			
POLY 3	P<0.001N**	P=0.017N*	P<0.001N**
POLY 1.5	P<0.001N**	P=0.025N*	P<0.001N**
POLY 6	P<0.001N**	P=0.011N*	P<0.001N**
RAO-SCOTT	P<0.001N**	P=0.023N*	P<0.001N**
LITTER C-A/FISHERS	P=0.003N**	P=0.176N	P=0.003N**

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Thyroid Gland: C-Cell Adenoma			
TUMOR RATES			
OVERALL (a)	9/50 (18%)	8/50 (16%)	4/50 (8%)
LITTERS (b)	9/32 (28%)	8/29 (28%)	4/30 (13%)
POLY-3 RATE (c)	9/37.78	8/41.46	4/37.82
POLY-3 PERCENT (g)	23.8%	19.3%	10.6%
TERMINAL (d)	6/23 (26%)	7/32 (22%)	2/23 (9%)
FIRST INCIDENCE	621	739	638
STATISTICAL TESTS			
POLY 3	P=0.095N	P=0.414N	P=0.108N
POLY 1.5	P=0.092N	P=0.452N	P=0.110N
POLY 6	P=0.103N	P=0.364N	P=0.109N
RAO-SCOTT	P=0.089N	P=0.395N	P=0.101N
LITTER C-A/FISHERS	P=0.099N	P=0.595N	P=0.132N

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid

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Date Report Requested: 07/25/2018

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm

Thyroid Gland: C-Cell
Carcinoma or Adenoma

TUMOR RATES

OVERALL (a)	9/50 (18%)	9/50 (18%)	4/50 (8%)
LITTERS (b)	9/32 (28%)	9/29 (31%)	4/30 (13%)
POLY-3 RATE (c)	9/37.78	9/41.46	4/37.82
POLY-3 PERCENT (g)	23.8%	21.7%	10.6%
TERMINAL (d)	6/23 (26%)	8/32 (25%)	2/23 (9%)
FIRST INCIDENCE	621	739	638

STATISTICAL TESTS

POLY 3	P=0.086N	P=0.518N	P=0.108N
POLY 1.5	P=0.084N	P=0.556N	P=0.110N
POLY 6	P=0.093N	P=0.465N	P=0.109N
RAO-SCOTT	P=0.080N	P=0.496N	P=0.100N
LITTER C-A/FISHERS	P=0.090N	P=0.512	P=0.132N

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid

CAS Number: 335-67-1

Date Report Requested: 07/25/2018

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First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
Uterus Carcinoma			
TUMOR RATES	#	#	#
OVERALL (a)	0/50 (0%)	2/50 (4%)	1/50 (2%)
LITTERS (b)	0/32 (0%)	2/29 (7%)	1/30 (3%)
POLY-3 RATE (c)	0/36.81	2/42.01	1/37.22
POLY-3 PERCENT (g)	0%	4.8%	2.7%
TERMINAL (d)	0/23 (0%)	1/32 (3%)	1/23 (4%)
FIRST INCIDENCE	---	564	744 (T)
STATISTICAL TESTS			
POLY 3	P=0.536	P=0.267	P=0.502
POLY 1.5	P=0.534	P=0.254	P=0.502
POLY 6	P=0.535	P=0.288	P=0.501
RAO-SCOTT	P=0.512	P=0.285	P=0.477
LITTER C-A/FISHERS	P=0.514	P=0.222	P=0.484

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid

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Date Report Requested: 07/25/2018

Time Report Requested: 16:22:31

First Dose M/F: 10/27/08 / 10/28/08

Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
<hr/>			
Uterus			
Polyp Stromal			
<hr/>			
TUMOR RATES	#	#	#
OVERALL (a)	6/50 (12%)	4/50 (8%)	3/50 (6%)
LITTERS (b)	5/32 (16%)	4/29 (14%)	3/30 (10%)
POLY-3 RATE (c)	6/37.44	4/41.81	3/37.63
POLY-3 PERCENT (g)	16%	9.6%	8%
TERMINAL (d)	4/23 (17%)	3/32 (9%)	2/23 (9%)
FIRST INCIDENCE	574	638	624
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.239N	P=0.300N	P=0.235N
POLY 1.5	P=0.232N	P=0.331N	P=0.237N
POLY 6	P=0.254N	P=0.259N	P=0.236N
RAO-SCOTT	P=0.255N	P=0.321N	P=0.257N
LITTER C-A/FISHERS	P=0.342N	P=0.565N	P=0.391N

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

Perfluorooctanoic Acid

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Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm

All Organs
Leukemia: Lymphocytic, Monocytic, Mononuclear, or Undifferentiated

TUMOR RATES	#	#	#
OVERALL (a)	1/50 (2%)	0/50 (0%)	2/50 (4%)
LITTERS (b)	1/32 (3%)	0/29 (0%)	2/30 (7%)
POLY-3 RATE (c)	1/37.09	0/41.44	2/37.22
POLY-3 PERCENT (g)	2.7%	0%	5.4%
TERMINAL (d)	0/23 (0%)	0/32 (0%)	2/23 (9%)
FIRST INCIDENCE	667	---	744 (T)

STATISTICAL TESTS			
POLY 3	P=0.303	P=0.478N	P=0.501
POLY 1.5	P=0.309	P=0.488N	P=0.502
POLY 6	P=0.293	P=0.464N	P=0.497
RAO-SCOTT	P=0.333	P=0.500N	P=0.502
LITTER C-A/FISHERS	P=0.301	P=0.525N	P=0.475

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

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Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
All Organs			
Benign Tumors			
TUMOR RATES	#	#	#
OVERALL (a)	38/50 (76%)	37/50 (74%)	27/50 (54%)
LITTERS (b)	27/32 (84%)	26/29 (90%)	22/30 (73%)
POLY-3 RATE (c)	38/43.02	37/45.69	27/41.87
POLY-3 PERCENT (g)	88.3%	81%	64.5%
TERMINAL (d)	21/23 (91%)	25/32 (78%)	13/23 (57%)
FIRST INCIDENCE	312	322	491
STATISTICAL TESTS			
POLY 3	P=0.003N**	P=0.234N	P=0.004N**
POLY 1.5	P=0.004N**	P=0.338N	P=0.007N**
POLY 6	P=0.003N**	P=0.148N	P=0.004N**
RAO-SCOTT	P=0.005N**	P=0.244N	P=0.009N**
LITTER C-A/FISHERS	P=0.127N	P=0.412	P=0.225N

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

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Lab: BAT

**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
All Organs			
Malignant Tumors			
<hr/>			
TUMOR RATES	#	#	#
OVERALL (a)	12/50 (24%)	9/50 (18%)	16/50 (32%)
LITTERS (b)	9/32 (28%)	8/29 (28%)	15/30 (50%)
POLY-3 RATE (c)	12/42.06	9/44.05	16/39.00
POLY-3 PERCENT (g)	28.5%	20.4%	41%
TERMINAL (d)	4/23 (17%)	3/32 (9%)	10/23 (44%)
FIRST INCIDENCE	274	351	574
<hr/>			
STATISTICAL TESTS			
POLY 3	P=0.085	P=0.266N	P=0.167
POLY 1.5	P=0.105	P=0.292N	P=0.194
POLY 6	P=0.067	P=0.224N	P=0.143
RAO-SCOTT	P=0.090	P=0.272N	P=0.177
LITTER C-A/FISHERS	P=0.036*	P=0.595N	P=0.066

Experiment Number: 20614 - 01
 Test Type: CHRONIC
 Route: DOSED FEED
 Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS
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**STATISTICAL ANALYSIS OF PRIMARY TUMORS IN RATS(HSD)
 TERMINAL SACRIFICE AT 107 WEEKS**

DOSE	Females		
	0/0 ppm	150/300 ppm	300/1000 ppm
All Organs			
Malignant and Benign Tumors			
TUMOR RATES	#	#	#
OVERALL (a)	46/50 (92%)	43/50 (86%)	35/50 (70%)
LITTERS (b)	30/32 (94%)	29/29 (100%)	26/30 (87%)
POLY-3 RATE (c)	46/47.99	43/48.17	35/42.78
POLY-3 PERCENT (g)	95.9%	89.3%	81.8%
TERMINAL (d)	22/23 (96%)	27/32 (84%)	18/23 (78%)
FIRST INCIDENCE	274	322	491
STATISTICAL TESTS			
POLY 3	P=0.021N*	P=0.189N	P=0.019N*
POLY 1.5	P=0.008N**	P=0.228N	P=0.009N**
POLY 6	P=0.052N	P=0.144N	P=0.040N*
RAO-SCOTT	P=0.031N*	P=0.204N	P=0.036N*
LITTER C-A/FISHERS	P=0.135N	P=0.271	P=0.305N

Experiment Number: 20614 - 01

Test Type: CHRONIC

Route: DOSED FEED

Species/Strain: RATS/HSD

P08: STATISTICAL ANALYSIS OF PRIMARY TUMORS

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Lab: BAT

LEGEND

- (a) Number of tumor-bearing animals/number of animals examined at site.
- (b) Number of litters with tumor-bearing animals/number of litters examined at site
- (c) Number of tumor-bearing animals/Poly-3 number
- (d) Observed incidence at terminal kill.
- (e) Value of statistic cannot be computed.
- (f) Beneath the control incidence are the P-values associated with the trend test. Beneath the dosed group incidence are the P-values corresponding to pairwise comparisons between the controls and that dosed group.
- (g) Poly-3 adjusted lifetime tumor incidence.
- (I) Interim sacrifice
- (T) Terminal sacrifice
- # Tumor rates based on numbers of animals necropsied.
- * To the right of any statistical result, indicates significance at ($P \leq 0.05$).
- ** To the right of any statistical result, indicates significance at ($P \leq 0.01$).
- N Indicates a negative trend for all tests
The Rao-Scott statistic performs the Poly-3 test with an adjustment for within-litter correlation.
The Litter C-A/Fishers statistic compares directly the litter incidence rates.

*** END OF REPORT ***