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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
National Institute of
Environmental Health Sciences
P. O. Box 12233
Research Triangle Park, NC 27709

January 25, 2001

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Dear Document Control Office:

In compliance with the National Toxicology Program's (NTP) mission to keep our colleagues informed of the current NTP findings during ongoing studies, a copy of the revised Summary Pathology Tables for the chronic Dosed Feed study on P-NITROTOLUENE (99-99-0) are enclosed for your review.

The NTP assembles a Pathology Working Group to review every study and to resolve any differences between the study laboratory and quality assessment pathology evaluations. Please note that the PWG conclusion of the study results is based solely on the pathology for this study and may not reflect final NTP conclusions. In determining final conclusions, the NTP assesses a broad array of information that includes other results from this study and historical control data.

The Summary Pathology Tables contain the Incidence Rates of Neoplastic and Non-neoplastic Lesion data and the Statistical Analysis of Primary Tumors data pertaining to the laboratory animals. All study data are subject to an NTP retrospective audit and the interpretation may be modified based on the findings.

A wide variety of NTP information is also available in electronic format on the world-wide web, for example, the NTP Annual Plan, abstracts of NTP Reports, study data, and the status of all NTP studies. To view this information requires access to the internet and a Web browser such as Netscape Navigator or Internet Explorer. To access the NTP home page, use the URL http://ntp-server.niehs.nih.gov/. Comments on the usefulness of this site and suggestions for improvement are encouraged.

Please contact Central Data Management (CDM) at (919)541-3419 if you have any questions. You may also fax your requests for information to CDM at (919)541-3687 or send them via e-mail to cdm@niehs.nih.gov.

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A 04

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and the Report on Carcinog[illegible] avail[illegible]
Service ([illegible]). You can c[illegible] EHIS
[illegible], or by [illegible]-mail at ehis@niehs[illegible]h.gov.

Sincerely,

William Eastin

William Eastin, Ph.D.
Head, Information Systems & Central Files
Environmental Toxicology Program

Encls: Revised Pathology Summary Tables for Rats
cc: Central Data Management

NATIONAL TOXICOLOGY PROGRAM

These reports were generated at the request of Dr. J. Mahler as a result of a special PWG for the Clitoral Gland.

TR-498 p-nitrotoluene

Pathology Tables - Rats

P03 - Incidence Rates of Non-Neoplastic Lesions - 2 year study

P05 - Incidence Rates of Neoplasms by Anatomic Site (systemic lesions abridged) - 2 year study

P08 - Statistical Analysis of Primary Tumors

Final#2/Rats

Facility: Southern Research Institute

Chemical CAS #: 99-99-0

Lock Date: 08/24/98

Cage Range: All

Reasons For Removal: All

Removal Date Range: All

Treatment Groups: Include All

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

A 06

INCIDENCE RATES OF NONNEOPLASTIC LESIONS BY ANATOMIC SITE (a)
P-NITROTOLUENE

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
DISPOSITION SUMMARY				
Animals Initially In Study	50	50	50	50
Early Deaths				
Natural Death	4	1	1	2
Moribund Sacrifice	7	12	10	7
Survivors				
Terminal Sacrifice	39	37	39	41
Animals Examined Microscopically	50	50	50	50
ALIMENTARY SYSTEM				
Intestine Large, Cecum	(50)	(49)	(50)	(50)
Edema		1 (2%)		
Intestine Small, Ileum	(48)	(47)	(50)	(48)
Ulcer			1 (2%)	
Liver	(50)	(50)	(50)	(50)
Angiectasis	1 (2%)		1 (2%)	2 (4%)
Basophilic Focus	44 (88%)	41 (82%)	49 (98%)	46 (92%)
Clear Cell Focus	12 (24%)	11 (22%)	18 (36%)	10 (20%)
Cyst				1 (2%)
Eosinophilic Focus	1 (2%)	2 (4%)	7 (14%)	9 (18%)
Fatty Change	1 (2%)			
Hematopoietic Cell Proliferation	1 (2%)	1 (2%)		
Hepatodiaphragmatic Nodule	3 (6%)	7 (14%)	14 (28%)	12 (24%)
Infiltration Cellular, Mixed Cell	41 (82%)	33 (66%)	43 (86%)	49 (98%)
Mixed Cell Focus	4 (8%)	3 (6%)	5 (10%)	3 (6%)
Necrosis, Focal	1 (2%)		1 (2%)	1 (2%)
Regeneration		1 (2%)		
Bile Duct, Hyperplasia	3 (6%)	1 (2%)		
Centrilobular, Necrosis	2 (4%)			
Hepatocyte, Vacuolization Cytoplasmic	2 (4%)	1 (2%)		
Kupffer Cell, Pigmentation	2 (4%)	3 (6%)		
Mesentery	(5)	(1)	(3)	
Fat, Necrosis	5 (100%)	1 (100%)	3 (100%)	
Pancreas	(50)	(50)	(50)	(50)
Atrophy	3 (6%)	1 (2%)	8 (16%)	4 (8%)
Acinus, Hyperplasia, Focal			1 (2%)	1 (2%)
Salivary Glands	(50)	(50)	(50)	(50)
Atrophy	1 (2%)			2 (4%)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Edema	1 (2%)	1 (2%)		

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

A 07

INCIDENCE RATES OF NONNEOPLASTIC LESIONS BY ANATOMIC SITE (a)
P-NITROTOLUENE

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
ALIMENTARY SYSTEM - CONT				
Erosion	1 (2%)			
Ulcer	2 (4%)			
Epithelium, Hyperplasia	3 (6%)	2 (4%)	1 (2%)	
Stomach, Glandular	(50)	(50)	(50)	(50)
Erosion		2 (4%)		
Tooth		(1)		
Malformation		1 (100%)		
CARDIOVASCULAR SYSTEM				
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	13 (26%)	10 (20%)	11 (22%)	8 (16%)
Inflammation, Chronic			3 (6%)	
Endocardium, Fibrosis	1 (2%)			
ENDOCRINE SYSTEM				
Adrenal Cortex	(50)	(50)	(50)	(50)
Accessory Adrenal Cortical Nodule	10 (20%)	6 (12%)	9 (18%)	5 (10%)
Degeneration, Fatty	11 (22%)	19 (38%)	9 (18%)	10 (20%)
Hyperplasia, Focal	5 (10%)	8 (16%)	3 (6%)	3 (6%)
Hypertrophy			2 (4%)	
Hypertrophy, Focal	4 (8%)	14 (28%)	7 (14%)	2 (4%)
Necrosis	1 (2%)	1 (2%)	1 (2%)	
Adrenal Medulla	(49)	(50)	(50)	(50)
Hyperplasia	3 (6%)	2 (4%)		
Pituitary Gland	(50)	(50)	(50)	(50)
Pars Distalis, Angiectasis	4 (8%)	5 (10%)	7 (14%)	7 (14%)
Pars Distalis, Cyst	22 (44%)	13 (26%)	18 (36%)	6 (12%)
Pars Distalis, Hyperplasia, Focal	10 (20%)	12 (24%)	8 (16%)	7 (14%)
Pars Intermedia, Angiectasis			2 (4%)	2 (4%)
Pars Intermedia, Cyst		1 (2%)	1 (2%)	
Thyroid Gland	(50)	(50)	(50)	(50)
Ultimobranchial Cyst			1 (2%)	2 (4%)
C-Cell, Hyperplasia	16 (32%)	14 (28%)	13 (26%)	8 (16%)
Follicle, Cyst		1 (2%)	1 (2%)	
GENERAL BODY SYSTEM				
None				

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

A 08

INCIDENCE RATES OF NONNEOPLASTIC LESIONS BY ANATOMIC SITE (a)
P-NITROTOLUENE

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
GENITAL SYSTEM				
Clitoral Gland	(50)	(50)	(50)	(49)
Cyst	2 (4%)			1 (2%)
Hyperplasia	3 (6%)	5 (10%)	4 (8%)	6 (12%)
Inflammation, Chronic	2 (4%)	3 (6%)	2 (4%)	2 (4%)
Ovary	(50)	(50)	(50)	(50)
Cyst	9 (18%)	11 (22%)	3 (6%)	6 (12%)
Uterus	(50)	(50)	(50)	(50)
Inflammation, Chronic	1 (2%)			1 (2%)
Prolapse				2 (4%)
Cervix, Hyperplasia	1 (2%)			
Endometrium, Hyperplasia, Cystic	5 (10%)	10 (20%)	13 (26%)	19 (38%)
Endometrium, Hyperplasia, Focal		1 (2%)		
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia	4 (8%)	3 (6%)	6 (12%)	7 (14%)
Infiltration Cellular, Histiocyte		1 (2%)	1 (2%)	5 (10%)
Lymph Node	(4)	(8)	(3)	(11)
Hemorrhage	1 (25%)			
Hyperplasia, Lymphoid				1 (9%)
Pigmentation	1 (25%)			
Iliac, Pigmentation		1 (13%)		
Mediastinal, Hemorrhage		1 (13%)		
Mediastinal, Hyperplasia, Lymphoid				1 (9%)
Mediastinal, Pigmentation		1 (13%)		
Pancreatic, Ectasia	1 (25%)			
Pancreatic, Hemorrhage			1 (33%)	3 (27%)
Pancreatic, Hyperplasia, Histiocytic	1 (25%)	2 (25%)	1 (33%)	4 (36%)
Pancreatic, Pigmentation			1 (33%)	4 (36%)
Renal, Hemorrhage				1 (9%)
Renal, Hyperplasia, Lymphoid				1 (9%)
Renal, Pigmentation		2 (25%)		2 (18%)
Lymph Node, Mandibular	(50)	(50)	(48)	(50)
Ectasia	4 (8%)	3 (6%)	2 (4%)	4 (8%)
Hemorrhage	3 (6%)	1 (2%)	3 (6%)	1 (2%)
Hyperplasia, Lymphoid	2 (4%)	4 (8%)	1 (2%)	7 (14%)
Pigmentation	27 (54%)	22 (44%)	24 (50%)	25 (50%)
Lymph Node, Mesenteric	(49)	(50)	(50)	(50)
Hemorrhage	2 (4%)	1 (2%)	1 (2%)	1 (2%)

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

A 09

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
HEMATOPOIETIC SYSTEM - CONT				
Hyperplasia, Lymphoid				1 (2%)
Pigmentation	2 (4%)	3 (6%)	1 (2%)	
Spleen	(50)	(50)	(50)	(50)
Fibrosis	1 (2%)	1 (2%)	1 (2%)	1 (2%)
Hematopoietic Cell Proliferation	26 (52%)	26 (52%)	45 (90%)	43 (86%)
Hemorrhage				1 (2%)
Infiltration Cellular, Mixed Cell		1 (2%)		
Pigmentation	24 (48%)	32 (64%)	45 (90%)	48 (96%)
Thymus	(48)	(48)	(45)	(50)
Cyst		1 (2%)		1 (2%)
Hyperplasia, Lymphoid				1 (2%)
INTEGUMENTARY SYSTEM				
Mammary Gland	(50)	(50)	(50)	(50)
Hyperplasia	42 (84%)	42 (84%)	45 (90%)	29 (58%)
Skin	(50)	(50)	(50)	(49)
Cyst Epithelial Inclusion	1 (2%)	1 (2%)		
Ulcer	1 (2%)	2 (4%)		2 (4%)
Epidermis, Hyperplasia	1 (2%)	3 (6%)		1 (2%)
MUSCULOSKELETAL SYSTEM				
Bone	(49)	(50)	(50)	(50)
Cranium, Osteopetrosis	12 (24%)	12 (24%)	11 (22%)	11 (22%)
Femur, Osteopetrosis	19 (39%)	14 (28%)	10 (20%)	6 (12%)
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Compression	4 (8%)	6 (12%)	3 (6%)	3 (6%)
Hydrocephalus	1 (2%)	4 (8%)	1 (2%)	1 (2%)
RESPIRATORY SYSTEM				
Lung	(50)	(50)	(50)	(50)
Hemorrhage	1 (2%)		2 (4%)	
Infiltration Cellular, Histiocyte	44 (88%)	35 (70%)	39 (78%)	31 (62%)
Metaplasia, Osseous	1 (2%)	1 (2%)		

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

A 10

INCIDENCE RATES OF NONNEOPLASTIC LESIONS BY ANATOMIC SITE (a)
P-NITROTOLUENE

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
RESPIRATORY SYSTEM - CONT				
Alveolar Epithelium, Hyperplasia	4 (8%)	5 (10%)	4 (8%)	1 (2%)
Nose	(50)	(50)	(50)	(50)
Foreign Body	3 (6%)	2 (4%)	2 (4%)	2 (4%)
Inflammation, Chronic	5 (10%)	4 (8%)	2 (4%)	
Respiratory Epithelium, Hyperplasia	1 (2%)		3 (6%)	1 (2%)
Respiratory Epithelium, Metaplasia, Squamous		2 (4%)	1 (2%)	
SPECIAL SENSES SYSTEM				
Eye	(2)		(3)	(1)
Cataract	1 (50%)		3 (100%)	1 (100%)
Inflammation, Chronic	1 (50%)			
Retina, Degeneration	1 (50%)		2 (100%)	1 (100%)
URINARY SYSTEM				
Kidney	(50)	(50)	(50)	(50)
Cyst	1 (2%)			
Glomerulosclerosis		1 (2%)		
Hydronephrosis	1 (2%)			
Infarct	1 (2%)			2 (4%)
Inflammation, Chronic	2 (4%)			2 (4%)
Mineralization	15 (30%)	21 (42%)	32 (64%)	40 (80%)
Nephropathy	11 (22%)	12 (24%)	7 (14%)	11 (22%)
Renal Tubule, Dilatation	1 (2%)	1 (2%)		1 (2%)
Renal Tubule, Hyaline Droplet	8 (16%)	41 (82%)	49 (98%)	46 (92%)
Renal Tubule, Hyperplasia	1 (2%)			
Renal Tubule, Hyperplasia, Oncocytic		2 (4%)	4 (8%)	6 (12%)
Renal Tubule, Pigmentation	9 (18%)	43 (86%)	49 (98%)	50 (100%)
Transitional Epithelium, Hyperplasia	3 (6%)			
Urinary Bladder	(50)	(50)	(50)	(50)
Inflammation, Chronic	1 (2%)			1 (2%)
Transitional Epithelium, Hyperplasia				1 (2%)

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

INCIDENCE RATES OF NONNEOPLASTIC LESIONS BY ANATOMIC SITE (a)
P-NITROTOLUENE

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
DISPOSITION SUMMARY				
Animals Initially In Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	18	8	10	7
Natural Death	1	4	2	3
Survivors				
Terminal Sacrifice	30	38	38	40
Natural Death	1			
Animals Examined Microscopically	50	50	50	50
ALIMENTARY SYSTEM				
Esophagus	(49)	(49)	(49)	(50)
Inflammation Chronic				1 (2%)
Intestine Large Cecum	(49)	(50)	(50)	(50)
Edema	1 (2%)			
Ulcer	1 (2%)			1 (2%)
Liver	(50)	(50)	(50)	(50)
Angiectasis		1 (2%)		1 (2%)
Basophilic Focus	31 (62%)	39 (78%)	42 (84%)	45 (90%)
Clear Cell Focus	20 (40%)	27 (54%)	30 (60%)	32 (64%)
Degeneration, Cystic		3 (6%)	5 (10%)	1 (2%)
Eosinophilic Focus	5 (10%)	5 (10%)	5 (10%)	19 (38%)
Hematopoietic Cell Proliferation		1 (2%)		
Hemorrhage	1 (2%)			1 (2%)
Hepatodiaphragmatic Nodule	6 (12%)	4 (8%)	7 (14%)	10 (20%)
Infiltration Cellular, Mixed Cell	3 (6%)	2 (4%)	4 (8%)	2 (4%)
Mixed Cell Focus	1 (2%)	10 (20%)	2 (4%)	3 (6%)
Necrosis, Focal	2 (4%)	1 (2%)		
Thrombosis		1 (2%)		
Bile Duct, Cyst				1 (2%)
Bile Duct, Hyperplasia	45 (90%)	44 (88%)	42 (84%)	42 (84%)
Centrilobular, Necrosis	2 (4%)	1 (2%)	1 (2%)	2 (4%)
Centrilobular, Vacuolization Cytoplasmic		1 (2%)		
Hepatocyte, Depletion Glycogen, Diffuse				1 (2%)
Hepatocyte, Regeneration, Focal	1 (2%)			
Hepatocyte, Vacuolization Cytoplasmic	3 (6%)		1 (2%)	1 (2%)
Kupffer Cell, Pigmentation	4 (8%)			1 (2%)
Mesentery	(6)	(18)	(7)	(10)
Accessory Spleen	1 (17%)			1 (10%)
Fat, Necrosis	4 (67%)	18 (100%)	7 (100%)	9 (90%)

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

A 12

INCIDENCE RATES OF NONNEOPLASTIC LESIONS BY ANATOMIC SITE (a)
P-NITROTOLUENE

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
ALIMENTARY SYSTEM - CONT				
Pancreas	(50)	(50)	(49)	(50)
Atrophy	12 (24%)	18 (36%)	16 (33%)	7 (14%)
Acinus, Hyperplasia, Focal	1 (2%)	2 (4%)	2 (4%)	1 (2%)
Salivary Glands	(50)	(50)	(50)	(50)
Atrophy	1 (2%)			1 (2%)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Edema	2 (4%)	2 (4%)	1 (2%)	
Ulcer	4 (8%)	1 (2%)	1 (2%)	1 (2%)
Epithelium, Hyperplasia	2 (4%)	2 (4%)	3 (6%)	2 (4%)
Stomach, Glandular	(50)	(50)	(50)	(50)
Erosion	5 (10%)	1 (2%)		2 (4%)
Ulcer	2 (4%)			1 (2%)
Tooth	(1)			
Malformation	1 (100%)			
CARDIOVASCULAR SYSTEM				
Heart	(50)	(50)	(50)	(50)
Cardiomyopathy	29 (58%)	31 (62%)	35 (70%)	29 (58%)
Thrombosis	1 (2%)	1 (2%)	1 (2%)	
Epicardium, Hyperplasia				1 (2%)
ENDOCRINE SYSTEM				
Adrenal Cortex	(50)	(50)	(50)	(50)
Accessory Adrenal Cortical Nodule	8 (16%)	4 (8%)	11 (22%)	13 (26%)
Degeneration, Fatty	13 (26%)	9 (18%)	9 (18%)	8 (16%)
Hyperplasia, Diffuse	1 (2%)	1 (2%)		
Hyperplasia, Focal		3 (6%)	1 (2%)	
Hypertrophy	1 (2%)			
Hypertrophy, Focal	2 (4%)	2 (4%)	3 (6%)	2 (4%)
Necrosis	1 (2%)		1 (2%)	1 (2%)
Adrenal Medulla	(50)	(49)	(50)	(50)
Hyperplasia	2 (4%)	3 (6%)	3 (6%)	3 (6%)
Islets, Pancreatic	(50)	(50)	(49)	(50)
Hyperplasia	2 (4%)	2 (4%)	3 (6%)	1 (2%)
Pituitary Gland	(48)	(47)	(49)	(45)
Pars Distalis, Angiectasis	1 (2%)	2 (4%)	1 (2%)	1 (2%)
Pars Distalis, Cyst	4 (8%)	8 (17%)	7 (14%)	8 (18%)
Pars Distalis, Hyperplasia, Focal	4 (8%)	5 (11%)	9 (18%)	7 (16%)
Thyroid Gland	(50)	(50)	(50)	(50)

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

A 13

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
ENDOCRINE SYSTEM - CONT				
Ultimobranchial Cyst				2 (4%)
C-Cell, Hyperplasia	7 (14%)	8 (16%)	3 (6%)	7 (14%)
Follicle, Cyst		2 (4%)	1 (2%)	
GENERAL BODY SYSTEM				
Peritoneum	(6)	(2)	(1)	(5)
Inflammation, Chronic	1 (17%)			1 (20%)
GENITAL SYSTEM				
Epididymis	(50)	(49)	(50)	(50)
Atypia Cellular	37 (74%)	36 (73%)	35 (70%)	42 (84%)
Preputial Gland	(50)	(49)	(50)	(50)
Hyperplasia	1 (2%)			
Inflammation, Chronic	43 (86%)	39 (80%)	45 (90%)	45 (90%)
Prostate	(50)	(50)	(50)	(50)
Corpora Amylacea		1 (2%)		
Inflammation, Chronic	27 (54%)	29 (58%)	24 (48%)	18 (36%)
Epithelium, Hyperplasia	14 (28%)	11 (22%)	7 (14%)	1 (2%)
Testes	(50)	(50)	(50)	(50)
Germinal Epithelium, Atrophy	7 (14%)	11 (22%)	8 (16%)	30 (60%)
Interstitial Cell, Hyperplasia	8 (16%)	15 (30%)	7 (14%)	23 (46%)
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Hyperplasia	4 (8%)	7 (14%)	3 (6%)	3 (6%)
Lymph Node	(14)	(7)	(7)	(5)
Iliac, Ectasia			1 (14%)	
Iliac, Hyperplasia, Lymphoid			1 (14%)	
Mediastinal, Hemorrhage	1 (7%)	1 (14%)	3 (43%)	2 (40%)
Mediastinal, Pigmentation	7 (50%)	3 (43%)	5 (71%)	3 (60%)
Pancreatic, Hyperplasia, Lymphoid	1 (7%)			
Pancreatic, Pigmentation	2 (14%)		1 (14%)	1 (20%)
Renal, Hemorrhage			1 (14%)	
Renal, Hyperplasia, Lymphoid			1 (14%)	
Renal, Pigmentation	1 (7%)		2 (29%)	
Lymph Node, Mandibular	(48)	(49)	(49)	(49)
Ectasia	5 (10%)	2 (4%)	2 (4%)	4 (8%)

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

A 14

INCIDENCE RATES OF NONNEOPLASTIC LESIONS BY ANATOMIC SITE (a)
P-NITROTOLUENE

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
HEMATOPOIETIC SYSTEM - CONT				
Hemorrhage	3 (6%)	4 (8%)	3 (6%)	4 (8%)
Hyperplasia, Lymphoid	4 (8%)	1 (2%)	2 (4%)	2 (4%)
Pigmentation	19 (40%)	14 (29%)	30 (61%)	26 (53%)
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Hemorrhage	4 (8%)	2 (4%)	3 (6%)	1 (2%)
Pigmentation	3 (6%)	3 (6%)	1 (2%)	
Spleen	(50)	(50)	(50)	(50)
Accessory Spleen				1 (2%)
Fibrosis	3 (6%)	4 (8%)	2 (4%)	4 (8%)
Hematopoietic Cell Proliferation	9 (18%)	13 (26%)	19 (38%)	25 (50%)
Hemorrhage		1 (2%)	1 (2%)	1 (2%)
Pigmentation	10 (20%)	12 (24%)	24 (48%)	38 (76%)
Thymus	(49)	(47)	(44)	(46)
Cyst			2 (5%)	
INTEGUMENTARY SYSTEM				
Mammary Gland	(45)	(48)	(43)	(36)
Galactocele	1 (2%)			
Hyperplasia	29 (64%)	22 (46%)	27 (63%)	26 (72%)
Inflammation, Granulomatous	1 (2%)			
Skin	(50)	(50)	(50)	(50)
Cyst Epithelial Inclusion	2 (4%)			
Hemorrhage		1 (2%)		
Inflammation, Chronic		1 (2%)		
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Hyperostosis	1 (2%)			
Cranium, Osteopetrosis	1 (2%)			
Femur, Osteopetrosis	2 (4%)	1 (2%)		
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Compression	5 (10%)	3 (6%)	7 (14%)	4 (8%)
Hydrocephalus		2 (4%)	2 (4%)	2 (4%)
Spinal Cord	(4)	(2)	(1)	(1)
Cyst Epithelial Inclusion				1 (100%)

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

B 01

INCIDENCE RATES OF NONNEOPLASTIC LESIONS BY ANATOMIC SITE (a)
P-NITROTOLUENE

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
RESPIRATORY SYSTEM				
Lung	(50)	(50)	(50)	(50)
Hemorrhage	5 (10%)		3 (6%)	
Infiltration Cellular, Histiocyte	39 (78%)	40 (80%)	43 (86%)	45 (90%)
Thrombosis		1 (2%)		
Alveolar Epithelium, Hyperplasia	3 (6%)	2 (4%)	5 (10%)	4 (8%)
Nose	(50)	(50)	(50)	(50)
Foreign Body	5 (10%)	6 (12%)	9 (18%)	1 (2%)
Inflammation, Chronic	7 (14%)	8 (16%)	8 (16%)	3 (6%)
Respiratory Epithelium, Hyperplasia	5 (10%)	6 (12%)	5 (10%)	
Respiratory Epithelium, Metaplasia, Squamous		4 (8%)	1 (2%)	
SPECIAL SENSES SYSTEM				
Eye	(3)	(2)		(1)
Cataract	1 (33%)	2 (100%)	[illegible] (100%)	1 (100%)
Hemorrhage		1 (50%)		1 (100%)
Retina, Degeneration		2 (100%)	1 (100%)	
URINARY SYSTEM				
Kidney	(50)	(50)	[illegible]	(50)
Cyst				1 (2%)
Infarct		4 (8%)	3 ([illegible]%)	1 (2%)
Inflammation, Chronic	1 (2%)	1 (2%)		1 (2%)
Nephropathy	33 (66%)	37 (74%)	31 (62%)	18 (36%)
Renal Tubule, Dilatation	1 (2%)			1 (2%)
Renal Tubule, Hyaline Droplet	2 (4%)	23 (46%)	[illegible] (54%)	18 (36%)
Renal Tubule, Hyperplasia	1 (2%)			1 (2%)
Renal Tubule, Hyperplasia, Oncocytic				3 (6%)
Renal Tubule, Pigmentation	10 (20%)	28 (56%)	7 (94%)	46 (92%)
Transitional Epithelium, Hyperplasia		1 (2%)		

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

B 02

B 03

END OF REPORT

FINAL#2/MATS

Facility: Southern Research Institute

Chemical CAS #. 99-99-0

Lock Date 08/24/98

Cage Range: All

Reasons For Removal: All

Removal Date Range. All

Treatment Groups: Include All

[illegible] histologically at site and number of animals with lesion

R 04

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
DISPOSITION SUMMARY				
Animals Initially in Study	50	50	50	50
Early Deaths				
Natural Death	4	1	1	2
Moribund Sacrifice	7	12	10	7
Survivors				
Terminal Sacrifice	39	37	39	41
Animals Examined Microscopically	50	50	50	50
ALIMENTARY SYSTEM				
Intestine Large, Colon	(50)	(50)	(49)	(50)
Intestine Large, Cecum	(50)	(49)	(50)	(50)
Liver	(50)	(50)	(50)	(50)
Hepatocellular Adenoma			1 (2%)	
Histiocytic Sarcoma		1 (2%)		
Oral Mucosa	(1)		(1)	(1)
Squamous Cell Carcinoma			1 (100%)	
Squamous Cell Papilloma	1 (100%)			1 (100%)
Pancreas	(50)	(50)	(50)	(50)
Acinus, Adenoma		1 (2%)		
Salivary Glands	(50)	(50)	(50)	(50)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Stomach, Glandular	(50)	(50)	(50)	(50)
Tongue	(3)	(1)		(1)
Squamous Cell Carcinoma	1 (33%)	1 (100%)		1 (100%)
CARDIOVASCULAR SYSTEM				
Heart	(50)	(50)	(50)	(50)
Endocardium, Schwannoma Malignant	1 (2%)			
ENDOCRINE SYSTEM				
Adrenal Cortex	(50)	(50)	(50)	(50)
Adrenal Medulla	(49)	(50)	(50)	(50)
Pheochromocytoma Malignant		1 (2%)	1 (2%)	
Pheochromocytoma Benign	2 (4%)	1 (2%)		1 (2%)

R 05

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
ENDOCRINE SYSTEM - cont				
Pituitary Gland	(50)	(50)	(50)	(50)
Pars Distalis, Adenoma	15 (30%)	23 (46%)	17 (34%)	11 (22%)
Pars Intermedia, Adenoma			1 (2%)	1 (2%)
Pars Intermedia, Carcinoma				1 (2%)
Thyroid Gland	(50)	(50)	(50)	(50)
Bilateral, C-Cell, Adenoma		1 (2%)		
C-Cell, Adenoma	6 (12%)	2 (4%)	9 (18%)	2 (4%)
C-Cell, Carcinoma			1 (2%)	1 (2%)
Follicular Cell, Carcinoma	1 (2%)	1 (2%)		1 (2%)
GENERAL BODY SYSTEM				
None				
GENITAL SYSTEM				
Clitoral Gland	(50)	(50)	(50)	(49)
Adenoma	7 (14%)	8 (16%)	13 (26%)	6 (12%)
Adenoma, Multiple			2 (4%)	
Carcinoma	2 (4%)	4 (8%)	6 (12%)	1 (2%)
Carcinoma, Multiple				1 (2%)
Ovary	(50)	(50)	(50)	(50)
Granulosa Cell Tumor Malignant			1 (2%)	
Histiocytic Sarcoma		1 (2%)		
Uterus	(50)	(50)	(50)	(50)
Carcinoma		1 (2%)		
Fibroma		1 (2%)		
Hemangioma	1 (2%)			
Leiomyoma				1 (2%)
Polyp Stromal	6 (12%)	4 (8%)	10 (20%)	8 (16%)
Polyp Stromal, Multiple			1 (2%)	
Schwannoma Malignant	1 (2%)			
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Histiocytic Sarcoma		1 (2%)		
Lymph Node	(4)	(8)	(3)	(11)
Lymph Node, Mandibular	(50)	(50)	(48)	(50)
Lymph Node, Mesenteric	(49)	(50)	(50)	(50)

R 06

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
HEMATOPOIETIC SYSTEM - cont				
Spleen	(50)	(50)	(50)	(50)
Thymus	(48)	(48)	(45)	(50)
Histiocytic Sarcoma		1 (2%)		
INTEGUMENTARY SYSTEM				
Mammary Gland	(50)	(50)	(50)	(50)
Carcinoma	1 (2%)			
Fibroadenoma	14 (28%)	15 (30%)	17 (34%)	5 (10%)
Fibroadenoma, Multiple		2 (4%)	3 (6%)	
Skin	(50)	(50)	(50)	(49)
Histiocytic Sarcoma		1 (2%)		
Trichoepithelioma				1 (2%)
Subcutaneous Tissue, Fibroma				1 (2%)
Subcutaneous Tissue, Fibrosarcoma	1 (2%)	1 (2%)		1 (2%)
Subcutaneous Tissue, Lipoma	1 (2%)			
Subcutaneous Tissue, Sarcoma	1 (2%)			
Subcutaneous Tissue, Sarcoma NOS	1 (2%)			
MUSCULOSKELETAL SYSTEM				
None				
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Astrocytoma Malignant	1 (2%)	1 (2%)		
Carcinoma, Metastatic, Pituitary Gland				1 (2%)
Glioma Malignant				1 (2%)
Oligodendroglioma Malignant			1 (2%)	
Spinal Cord	(1)	(2)		
RESPIRATORY SYSTEM				
Lung	(50)	(50)	(50)	(50)
Alveolar/Bronchiolar Adenoma				1 (2%)
Histiocytic Sarcoma		1 (2%)		
Sarcoma NOS, Metastatic, Skin	1 (2%)			

R07

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
SPECIAL SENSES SYSTEM				
Zymbal's Gland			(1)	
Carcinoma			1 (100%)	
URINARY SYSTEM				
Kidney	(50)	(50)	(50)	(50)
Sarcoma			1 (2%)	
Urinary Bladder	(50)	(50)	(50)	(50)
SYSTEMIC LESIONS				
Multiple Organs	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma		1 (2%)		
Leukemia Mononuclear	13 (26%)	12 (24%)	3 (6%)	1 (2%)
Lymphoma Malignant		1 (2%)	1 (2%)	

* Number of animals with any tissue examined microscopically

B 09

FISCHER 344 RATS FEMALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
TUMOR SUMMARY				
Total Animals with Primary Neoplasms (b)	43	46	46	29
Total Primary Neoplasms	77	82	91	48
Total Animals with Benign Neoplasms	33	39	41	27
Total Benign Neoplasms	53	58	74	39
Total Animals with Malignant Neoplasms	22	22	16	7
Total Malignant Neoplasms	24	24	17	9
Total Animals with Metastatic Neoplasms	1			1
Total Metastatic Neoplasm	1			1
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain-Benign or Malignant				
Total Uncertain Neoplasms				

a Number of animals examined microscopically at site and number of animals with lesion
b Primary tumors: all tumors except metastatic tumors

B 09

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
DISPOSITION SUMMARY				
Animals Initially in Study	50	50	50	50
Early Deaths				
Moribund Sacrifice	18	8	10	7
Natural Death	1	4	2	3
Survivors				
Terminal Sacrifice	30	38	38	40
Natural Death	1			
Animals Examined Microscopically	50	50	50	50
ALIMENTARY SYSTEM				
Intestine Large, Colon	(50)	(49)	(48)	(49)
Polyp Adenomatous			1 (2%)	
Intestine Large, Cecum	(49)	(50)	(50)	(50)
Intestine Small, Duodenum	(49)	(50)	(50)	(50)
Intestine Small, Ileum	(49)	(49)	(47)	(49)
Liver	(50)	(50)	(50)	(50)
Carcinoma, Metastatic, Pancreas	1 (2%)			
Carcinoma, Metastatic, Thyroid Gland			1 (2%)	
Hepatocellular Carcinoma	1 (2%)			
Mesentery	(6)	(18)	(7)	(10)
Carcinoma, Metastatic, Thyroid Gland			1 (14%)	
Oral Mucosa		(1)	(1)	
Squamous Cell Carcinoma		1 (100%)		
Squamous Cell Papilloma			1 (100%)	
Pancreas	(50)	(50)	(49)	(50)
Carcinoma, Metastatic, Thyroid Gland			1 (2%)	
Acinus, Adenoma			1 (2%)	
Acinus, Carcinoma	1 (2%)			
Salivary Glands	(50)	(50)	(50)	(50)
Schwannoma Malignant	1 (2%)			1 (2%)
Stomach, Forestomach	(50)	(50)	(50)	(50)
Squamous Cell Papilloma				1 (2%)
Stomach, Glandular	(50)	(50)	(50)	(50)
Tongue		(1)		
Squamous Cell Carcinoma		1 (100%)		

B 10

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
CARDIOVASCULAR SYSTEM				
Heart	(50)	(50)	(50)	(50)
Alveolar/Bronchiolar Carcinoma, Metastatic, Lung				1 (2%)
ENDOCRINE SYSTEM				
Adrenal Cortex	(50)	(50)	(50)	(50)
Adenoma			1 (2%)	1 (2%)
Carcinoma, Metastatic, Thyroid Gland			1 (2%)	
Bilateral, Adenoma				1 (2%)
Adrenal Medulla	(50)	(49)	(50)	(50)
Pheochromocytoma Malignant		1 (2%)		1 (2%)
Pheochromocytoma Benign	3 (6%)	3 (6%)	2 (4%)	4 (8%)
Islets, Pancreatic	(50)	(50)	(49)	(50)
Adenoma	3 (6%)		1 (2%)	
Carcinoma	2 (4%)			
Pituitary Gland	(48)	(47)	(49)	(45)
Pars Distalis, Adenoma	15 (31%)	16 (34%)	15 (31%)	14 (31%)
Pars Distalis, Carcinoma	1 (2%)			
Pars Intermedia, Adenoma				1 (2%)
Thyroid Gland	(50)	(50)	(50)	(50)
C-Cell, Adenoma	11 (22%)	7 (14%)	5 (10%)	4 (8%)
C-Cell, Carcinoma			1 (2%)	2 (4%)
Follicular Cell, Adenoma				1 (2%)
Follicular Cell, Carcinoma		2 (4%)	2 (4%)	
GENERAL BODY SYSTEM				
Peritoneum	(6)	(2)	(1)	(5)
GENITAL SYSTEM				
Preputial Gland	(50)	(49)	(50)	(50)
Adenoma	2 (4%)	4 (8%)	1 (2%)	5 (10%)
Carcinoma	2 (4%)	4 (8%)	4 (8%)	3 (6%)
Schwannoma Malignant	1 (2%)			
Prostate	(50)	(50)	(50)	(50)
Adenoma	2 (4%)	2 (4%)	2 (4%)	
Seminal Vesicle	(50)	(50)	(50)	(50)

B11

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
GENITAL SYSTEM - cont				
Testes	(50)	(50)	(50)	(50)
Bilateral, Interstitial Cell, Adenoma	40 (80%)	32 (64%)	39 (78%)	17 (34%)
Interstitial Cell, Adenoma	9 (18%)	14 (28%)	6 (12%)	17 (34%)
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Lymph Node	(14)	(7)	(7)	(5)
Lymph Node, Mandibular	(48)	(49)	(49)	(49)
Carcinoma, Metastatic, Thyroid Gland			1 (2%)	1 (2%)
Lymph Node, Mesenteric	(50)	(50)	(50)	(50)
Spleen	(50)	(50)	(50)	(50)
Carcinoma, Metastatic, Thyroid Gland			1 (2%)	
Thymus	(49)	(47)	(44)	(46)
Thymoma Malignant			1 (2%)	2 (4%)
INTEGUMENTARY SYSTEM				
Mammary Gland	(45)	(48)	(43)	(36)
Fibroadenoma			2 (5%)	
Skin	(50)	(50)	(50)	(50)
Basal Cell Adenoma	1 (2%)		1 (2%)	2 (4%)
Basal Cell Carcinoma		1 (2%)		1 (2%)
Carcinoma, Metastatic, Zymbal's Gland	1 (2%)			
Fibrous Histiocytoma	1 (2%)			
Keratoacanthoma	2 (4%)	5 (10%)	2 (4%)	
Squamous Cell Papilloma	1 (2%)		1 (2%)	1 (2%)
Trichoepithelioma			1 (2%)	
Sebaceous Gland, Adenoma		1 (2%)		
Subcutaneous Tissue, Fibroma	1 (2%)	2 (4%)	7 (14%)	1 (2%)
Subcutaneous Tissue, Fibrosarcoma			2 (4%)	
Subcutaneous Tissue, Hemangioma	2 (4%)			
Subcutaneous Tissue, Schwannoma Malignant		1 (2%)		
MUSCULOSKELETAL SYSTEM				
Bone	(50)	(50)	(50)	(50)
Osteosarcoma				1 (2%)
Skeletal Muscle	(1)	(1)	(2)	(1)
Carcinoma, Metastatic, Pancreas	1 (100%)			

B 12

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
MUSCULOSKELETAL SYSTEM - cont				
Thymoma Malignant, Metastatic, Thymus				1 (100%)
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(50)
Astrocytoma Malignant		1 (2%)		
Carcinoma, Metastatic, Pituitary Gland	1 (2%)			
Granular Cell Tumor Malignant	1 (2%)			
Spinal Cord	(4)	(2)	(1)	(1)
RESPIRATORY SYSTEM				
Lung	(50)	(50)	(50)	(50)
Alveolar/Bronchiolar Adenoma	1 (2%)		1 (2%)	2 (4%)
Alveolar/Bronchiolar Adenoma, Multiple			1 (2%)	
Alveolar/Bronchiolar Carcinoma		1 (2%)		1 (2%)
Carcinoma, Metastatic, Pancreas	1 (2%)			
Carcinoma, Metastatic, Preputial Gland			1 (2%)	
Carcinoma, Metastatic, Thyroid Gland			1 (2%)	1 (2%)
Thymoma Malignant, Metastatic, Thymus				1 (2%)
SPECIAL SENSES SYSTEM				
Eye	(3)	(2)	(1)	(1)
Melanoma Malignant	1 (33%)			
Zymbal's Gland	(2)			(2)
Adenoma				1 (50%)
Carcinoma	2 (100%)			1 (50%)
URINARY SYSTEM				
Kidney	(50)	(50)	(50)	(50)
Urinary Bladder	(50)	(50)	(50)	(50)

B 13

NTP Experiment-Test: 05205-07 INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS ABRIDGED) (a) Report: PETRPT05
Study Type: CHRONIC P-NITROTOLUENE Date: 01/15/01
Route: DOSED FEED Time: 10:40:52

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
SYSTEMIC LESIONS				
Multiple Organs	*(50)	*(50)	*(50)	*(50)
Leukemia Mononuclear	24 (48%)	12 (24%)	5 (10%)	4 (8%)
Lymphoma Malignant	2 (4%)			1 (2%)
Mesothelioma Malignant	5 (10%)	2 (4%)	1 (2%)	4 (8%)

* Number of animals with any tissue examined microscopically

B 14

FISCHER 344 RATS MALE	0 PPM	1250 PPM	2500 PPM	5000 PPM
TUMOR SUMMARY				
Total Animals with Primary Neoplasms (b)	50	50	48	46
Total Primary Neoplasms	140	113	107	95
Total Animals with Benign Neoplasms	49	50	48	41
Total Benign Neoplasms	93	86	91	73
Total Animals with Malignant Neoplasms	33	22	15	20
Total Malignant Neoplasms	47	27	16	22
Total Animals with Metastatic Neoplasms	3		3	4
Total Metastatic Neoplasm	5		9	5
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain-Benign or Malignant				
Total Uncertain Neoplasms				

a Number of animals examined microscopically at site and number of animals with lesion
b Primary tumors: all tumors except metastatic tumors

C 01

C 02

END OF REPORT

Final#2/Rats

REASONS FOR REMOVAL: ALL

REMOVAL DATE RANGE: ALL

TREATMENT GROUPS: INCLUDE ALL

C 03

NTP
LAB: Southern Research Inst
EXPERIMENT: 05205 TEST: 07
TEST TYPE: CHRONIC
CONT: NOT LS-35393
PATHOLOGIST: HEATH, JAMES E.
Rats(FISCHER 344)

STATISTICAL ANALYSIS OF PRIMARY TUMORS
P-NITROTOLUENE

CAGES FROM 0000 TO LAST CAGE
ROUTE: DOSED FEED

REPORT: PEIRPT08
DATE: 01/04/01
TIME: 08:27:02

NTP C#: 62537D
CAS: 99-99-0

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
Brain
Clitoral/Preputial Gland
Heart
Islets, Pancreatic
Kidney
Liver
Lung
Ovary
Pancreas
Pituitary Gland
Prostate
Salivary Glands
Testes
Thymus
Thyroid Gland

C 04

NTP
LAB: Southern Research Inst
EXPERIMENT: 05205 TEST: 07
TEST TYPE: CHRONIC
CONT: N01-ES-55393
PATHOLOGIST: HEATH, JAMES E.

STATISTICAL ANALYSIS OF PRIMARY TUMORS
P-NITROTOLUENE

CAGES FROM 0000 TO LAST CAGE
ROUTE: DOSED FEED

REPORT: PEIRPT08
DATE: 01/04/01
TIME: 08:27:02

NTP C#: 62537D
CAS: 99-99-0

SUMMARY OF STATISTICALLY SIGNIFICANT (P<=.05) RESULTS
IN THE ANALYSIS OF P-NITROTOLUENE

Male Rats

Organ	Morphology
Islets, Pancreatic	Carcinoma or Adenoma
Skin	Fibroma
	Fibroma, Fibrosarcoma, Sarcoma, Myxoma, Myxosarcoma, or Fibrous Histiocytoma
Testes	Adenoma
Thyroid Gland: C-Cell	Adenoma
All Organs	Leukemia: Lymphocytic, Monocytic, Mononuclear, or Undifferentiated
	Benign Tumors
	Malignant Tumors
	Malignant and Benign Tumors

Female Rats

Organ	Morphology
Clitoral/Preputial Gland	Adenoma
	Carcinoma or Adenoma
Mammary Gland	Fibroadenoma
	Fibroma, Fibroadenoma, Carcinoma, or Adenoma
All Organs	Leukemia: Lymphocytic, Monocytic, Mononuclear, or Undifferentiated
	Benign Tumors
	Malignant Tumors
	Malignant and Benign Tumors

C 05

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) - P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Adrenal Cortex Adenoma								
TUMOR RATES								
OVERALL (a)	0/50 (0%)	0/50 (0%)	1/50 (2%)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/44.85	0/44.95	1/47.38	2/46.70	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	0.0%	0.0%	2.1%	4.3%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	1/38 (3%)	1/40 (3%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	---	---	729 (T)	685	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.088	(e)	P=0.541	P=0.279	(e)	(e)	(e)	(e)
POLY 3	P=0.075	(e)	P=0.511	P=0.246	(e)	(e)	(e)	(e)
POLY 1.5	P=0.073	(e)	P=0.507	P=0.242	(e)	(e)	(e)	(e)
POLY 6	P=0.078	(e)	P=0.516	P=0.252	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.073	(e)	P=0.541	P=0.240	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.070	(e)	P=0.500	P=0.247	(e)	(e)	(e)	(e)

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Adrenal Medulla Pheochromocytoma Benign								
TUMOR RATES								
OVERALL (a)	3/50 (6%)	3/49 (6%)	2/50 (4%)	4/50 (8%)	2/49 (4%)	1/50 (2%)	0/50 (0%)	1/50 (2%
POLY-3 RATE (b)	3/45.04	3/43.95	2/47.38	4/46.62	2/44.91	1/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	6.7%	6.8%	4.2%	8.6%	4.5%	2.2%	0.0%	2.1%
TERMINAL (d)	2/31 (7%)	3/37 (8%)	2/38 (5%)	3/40 (8%)	2/38 (5%)	1/37 (3%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	681	729 (T)	729 (T)	707	729 (T)	729 (T)	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.526	P=0.595N	P=0.422N	P=0.614	P=0.343N	P=0.509N	P=0.233N	P=0.473N
POLY 3	P=0.445	P=0.651	P=0.477N	P=0.519	P=0.358N	P=0.489N	P=0.227N	P=0.476N
POLY 1.5	P=0.437	P=0.652	P=0.486N	P=0.511	P=0.360N	P=0.490N	P=0.229N	P=0.482N
POLY 6	P=0.457	P=0.652	P=0.466N	P=0.531	P=0.356N	P=0.490N	P=0.226N	P=0.471N
LOGISTIC REGRESSION	P=0.469	P=0.661	P=0.463N	P=0.532	P=0.343N	P=0.509N	(e)	P=0.473N
COCH-ARM / FISHERS	P=0.424	P=0.651	P=0.500N	P=0.500	P=0.362N	P=0.492N	P=0.242N	P=0.492N

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Adrenal Medulla								
Pheochromocytoma: Benign, Complex, Malignant, NOS								
TUMOR RATES								
OVERALL (a)	3/50 (6%)	4/49 (8%)	2/50 (4%)	5/50 (10%)	2/49 (4%)	2/50 (4%)	1/50 (2%)	1/50 (2%)
POLY-3 RATE (b)	3/45.04	4/43.95	2/47.38	5/46.62	2/44.91	2/46.64	1/47.00	1/48.05
POLY-3 PERCENT (g)	6.7%	9.1%	4.2%	10.7%	4.5%	4.3%	2.1%	2.1%
TERMINAL (d)	2/31 (7%)	4/37 (11%)	2/38 (5%)	4/40 (10%)	2/38 (5%)	1/37 (3%)	1/39 (3%)	1/41 (2%)
FIRST INCIDENCE	681	729 (T)	729 (T)	707	729 (T)	629	729 (T)	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.431	P=0.580	P=0.422N	P=0.481	P=0.311N	P=0.690	P=0.491N	P=0.473N
POLY 3	P=0.345	P=0.487	P=0.477N	P=0.376	P=0.321N	P=0.680N	P=0.484N	P=0.476N
POLY 1.5	P=0.336	P=0.488	P=0.486N	P=0.368	P=0.325N	P=0.682N	P=0.487N	P=0.482N
POLY 6	P=0.356	P=0.487	P=0.466N	P=0.387	P=0.317N	P=0.679N	P=0.483N	P=0.471N
LOGISTIC REGRESSION	P=0.372	P=0.498	P=0.463N	P=0.391	P=0.326N	P=0.688N	P=0.491N	P=0.473N
COCH-ARM / FISHERS	P=0.324	P=0.489	P=0.500N	P=0.357	P=0.332N	P=0.684N	P=0.492N	P=0.492N

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Clitoral/Preputial Gland								
Adenoma								
TUMOR RATES								
OVERALL (a)	2/50 (4%)	4/49 (8%)	1/50 (2%)	5/50 (10%)	7/50 (14%)	8/50 (16%)	15/50 (30%)	6/49 (12%)
POLY-3 RATE (b)	2/44.85	4/45.29	1/47.58	5/46.53	7/45.91	8/46.40	15/48.20	6/47.44
POLY-3 PERCENT (g)	4.5%	8.8%	2.1%	10.8%	15.3%	17.2%	31.1%	12.7%
TERMINAL (d)	2/31 (7%)	3/38 (8%)	0/38 (0%)	5/40 (13%)	7/39 (18%)	7/37 (19%)	13/39 (33%)	6/41 (15%)
FIRST INCIDENCE	729 (T)	490	679	729 (T)	729 (T)	701	387	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.287	P=0.420	P=0.445N	P=0.329	P=0.434N	P=0.460	P=0.046 *	P=0.461N
POLY 3	P=0.227	P=0.342	P=0.479N	P=0.231	P=0.453N	P=0.509	P=0.056	P=0.475N
POLY 1.5	P=0.221	P=0.336	P=0.488N	P=0.225	P=0.478N	P=0.506	P=0.052	P=0.490N
POLY 6	P=0.235	P=0.349	P=0.469N	P=0.241	P=0.428N	P=0.510	P=0.058	P=0.460N
LOGISTIC REGRESSION	P=0.212	P=0.321	P=0.487N	P=0.329	P=0.484N	P=0.498	P=0.047 *	P=0.461N
COCH-ARM / FISHERS	P=0.213	P=0.329	P=0.500N	P=0.218	P=0.520N	P=0.500	P=0.045 *	P=0.516N

C 07

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Clitoral/Preputial Gland Carcinoma								
TUMOR RATES								
OVERALL (a)	2/50 (4%)	4/49 (8%)	4/50 (8%)	3/50 (6%)	2/50 (4%)	4/50 (8%)	6/50 (12%)	2/49 (4%)
POLY-3 RATE (b)	2/44.85	4/46.17	4/47.38	3/46.73	2/45.91	4/46.28	6/47.35	2/47.44
POLY-3 PERCENT (g)	4.5%	8.7%	8.4%	6.4%	4.4%	8.6%	12.7%	4.2%
TERMINAL (d)	2/31 (7%)	1/38 (3%)	4/38 (11%)	2/40 (5%)	2/39 (5%)	4/37 (11%)	5/39 (13%)	2/41 (5%)
FIRST INCIDENCE	729 (T)	515	729 (T)	676	729 (T)	729 (T)	633	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.565	P=0.384	P=0.434	P=0.600	P=0.497N	P=0.312	P=0.139	P=0.677N
POLY 3	P=0.508	P=0.351	P=0.363	P=0.519	P=0.509N	P=0.341	P=0.143	P=0.682N
POLY 1.5	P=0.498	P=0.341	P=0.353	P=0.511	P=0.524N	P=0.340	P=0.140	P=0.689N
POLY 6	P=0.524	P=0.364	P=0.376	P=0.531	P=0.493N	P=0.340	P=0.145	P=0.675N
LOGISTIC REGRESSION	P=0.449	P=0.288	P=0.434	P=0.525	P=0.508N	P=0.312	P=0.141	P=0.677N
COCH-ARM / FISHERS	P=0.484	P=0.329	P=0.339	P=0.500	P=0.549N	P=0.339	P=0.134	P=0.684

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Clitoral/Preputial Gland Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	4/50 (8%)	8/49 (16%)	5/50 (10%)	8/50 (16%)	8/50 (16%)	12/50 (24%)	20/50 (40%)	8/49 (16%)
POLY-3 RATE (b)	4/44.85	8/46.87	5/47.58	8/46.73	8/45.91	12/46.40	20/48.20	8/47.44
POLY-3 PERCENT (g)	8.9%	17.1%	10.5%	17.1%	17.4%	25.9%	41.5%	16.9%
TERMINAL (d)	4/31 (13%)	4/38 (11%)	4/38 (11%)	7/40 (18%)	8/39 (21%)	11/37 (30%)	18/39 (46%)	8/41 (20%)
FIRST INCIDENCE	729 (T)	490	679	676	729 (T)	701	387	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.338	P=0.254	P=0.617	P=0.313	P=0.464N	P=0.187	P=0.007 **	P=0.566N
POLY 3	P=0.249	P=0.199	P=0.537	P=0.197	P=0.487N	P=0.232	P=0.008 **	P=0.580N
POLY 1.5	P=0.241	P=0.186	P=0.522	P=0.189	P=0.518N	P=0.231	P=0.007 **	P=0.596N
POLY 6	P=0.263	P=0.216	P=0.556	P=0.210	P=0.455N	P=0.232	P=0.009 **	P=0.563N
LOGISTIC REGRESSION	P=0.207	P=0.147	P=0.567	P=0.224	P=0.504N	P=0.219	P=0.008 **	P=0.566N
COCH-ARM / FISHERS	P=0.228	P=0.168	P=0.500	P=0.178	P=0.520	P=0.227	P=0.007 **	P=0.590

C 08

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Islets, Pancreatic Adenoma								
TUMOR RATES								
OVERALL (a)	3/50 (6%)	0/50 (0%)	1/49 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	3/45.02	0/44.95	1/46.58	0/46.53	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	6.7%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	1/31 (3%)	0/38 (0%)	1/38 (3%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	695	---	729 (T)	---	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.070N	P=0.105N	P=0.251N	P=0.098N	(e)	(e)	(e)	(e)
POLY 3	P=0.082N	P=0.119N	P=0.293N	P=0.113N	(e)	(e)	(e)	(e)
POLY 1.5	P=0.084N	P=0.119N	P=0.301N	P=0.115N	(e)	(e)	(e)	(e)
POLY 6	P=0.081N	P=0.118N	P=0.284N	P=0.109N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.079N	P=0.119N	P=0.283N	P=0.112N	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.087N	P=0.121N	P=0.316N	P=0.121N	(e)	(e)	(e)	(e)

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Islets, Pancreatic Carcinoma								
TUMOR RATES								
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/49 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/44.92	0/44.95	0/46.58	0/46.53	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	1/31 (3%)	0/38 (0%)	0/38 (0%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	713	---	---	---	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.100N	P=0.209N	P=0.204N	P=0.201N	(e)	(e)	(e)	(e)
POLY 3	P=0.114N	P=0.237N	P=0.229N	P=0.229N	(e)	(e)	(e)	(e)
POLY 1.5	P=0.114N	P=0.237N	P=0.234N	P=0.233N	(e)	(e)	(e)	(e)
POLY 6	P=0.114N	P=0.236N	P=0.223N	P=0.224N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.107N	P=0.233N	P=0.220N	P=0.221N	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.116N	P=0.247N	P=0.253N	P=0.247N	(e)	(e)	(e)	(e)

C 09

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) - P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Islets, Pancreatic Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	5/50 (10%)	0/50 (0%)	1/49 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	5/45.08	0/44.95	1/46.58	0/46.53	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	11.1%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	2/31 (7%)	0/38 (0%)	1/38 (3%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	695	---	729 (T)	---	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.013N*	P=0.026N*	P=0.074N	P=0.023N*	(e)	(e)	(e)	(e)
POLY 3	P=0.015N*	P=0.031N*	P=0.094N	P=0.028N*	(e)	(e)	(e)	(e)
POLY 1.5	P=0.016N*	P=0.031N*	P=0.099N	P=0.029N*	(e)	(e)	(e)	(e)
POLY 6	P=0.015N*	P=0.030N*	P=0.088N	P=0.026N*	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.015N*	P=0.032N*	P=0.088N	P=0.028N	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.018N*	P=0.028N*	P=0.107N	P=0.028N*	(e)	(e)	(e)	(e)

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Lung Alveolar/Bronchiolar Adenoma								
TUMOR RATES								
OVERALL (a)	1/50 (2%)	0/50 (0%)	2/50 (4%)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	1/45.52	0/44.95	2/47.38	2/46.53	0/45.91	0/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	2.2%	0.0%	4.2%	4.3%	0.0%	0.0%	0.0%	2.1%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	2/38 (5%)	2/40 (5%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	504	---	729 (T)	729 (T)	---	---	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.290	P=0.500N	P=0.549	P=0.556	P=0.209	(e)	(e)	P=0.510
POLY 3	P=0.256	P=0.503N	P=0.514	P=0.508	P=0.205	(e)	(e)	P=0.509
POLY 1.5	P=0.252	P=0.502N	P=0.508	P=0.504	P=0.203	(e)	(e)	P=0.506
POLY 6	P=0.262	P=0.503N	P=0.521	P=0.514	P=0.207	(e)	(e)	P=0.512
LOGISTIC REGRESSION	P=0.224	P=0.620N	P=0.394	P=0.451	(e)	(e)	(e)	P=0.510
COCH-ARM / FISHERS	P=0.245	P=0.500N	P=0.500	P=0.500	P=0.198	(e)	(e)	P=0.500

C 10

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Lung Alveolar/Bronchiolar Carcinoma or Alveolar/Bronchiolar Adenoma								
TUMOR RATES								
OVERALL (a)	1/50 (2%)	1/50 (2%)	2/50 (4%)	3/50 (6%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	1/45.52	1/44.95	2/47.38	3/46.53	0/45.91	0/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	2.2%	2.2%	4.2%	6.5%	0.0%	0.0%	0.0%	2.1%
TERMINAL (d)	0/31 (0%)	1/38 (3%)	2/38 (5%)	3/40 (8%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	504	729 (T)	729 (T)	729 (T)	---	---	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.212	P=0.738N	P=0.549	P=0.374	P=0.209	(e)	(e)	P=0.510
POLY 3	P=0.174	P=0.758	P=0.514	P=0.313	P=0.205	(e)	(e)	P=0.509
POLY 1.5	P=0.171	P=0.759	P=0.508	P=0.310	P=0.203	(e)	(e)	P=0.506
POLY 6	P=0.179	P=0.758	P=0.521	P=0.319	P=0.207	(e)	(e)	P=0.512
LOGISTIC REGRESSION	P=0.157	P=0.747	P=0.394	P=0.273	(e)	(e)	(e)	P=0.510
COCH-ARM / FISHERS	P=0.165	P=0.753N	P=0.500	P=0.309	P=0.198	(e)	(e)	P=0.500

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Mammary Gland Fibroadenoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	0/50 (0%)	0/50 (0%)	2/50 (4%)	0/50 (0%)	14/50 (28%)	17/50 (34%)	20/50 (40%)	5/50 (10%)
POLY-3 RATE (b)	0/44.85	0/44.95	2/47.38	0/46.53	14/46.39	17/46.42	20/48.23	5/48.25
POLY-3 PERCENT (g)	0.0%	0.0%	4.2%	0.0%	30.2%	36.6%	41.5%	10.4%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	2/38 (5%)	0/40 (0%)	11/39 (28%)	14/37 (38%)	15/39 (39%)	4/41 (10%)
FIRST INCIDENCE	---	---	729 (T)	---	655	701	633	676
STATISTICAL TESTS								
LIFE TABLE	P=0.637	(e)	P=0.284	(e)	P=0.013N*	P=0.289	P=0.166	P=0.018N*
POLY 3	P=0.613	(e)	P=0.250	(e)	P=0.008N**	P=0.331	P=0.176	P=0.014N*
POLY 1.5	P=0.605	(e)	P=0.245	(e)	P=0.010N*	P=0.334	P=0.164	P=0.015N*
POLY 6	P=0.624	(e)	P=0.256	(e)	P=0.007N**	P=0.320	P=0.187	P=0.013N*
LOGISTIC REGRESSION	(e)	(e)	P=0.284	(e)	P=0.011N*	P=0.334	P=0.160	P=0.015N*
COCH-ARM / FISHERS	P=0.595	(e)	P=0.247	(e)	P=0.017N*	P=0.333	P=0.146	P=0.020N*

C 11

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Mammary Gland Fibroma, Fibroadenoma, Carcinoma, or Adenoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	0/50 (0%)	0/50 (0%)	2/50 (4%)	0/50 (0%)	14/50 (28%)	17/50 (34%)	20/50 (40%)	5/50 (10%)
POLY-3 RATE (b)	0/44.85	0/44.95	2/47.38	0/46.53	14/46.39	17/46.42	20/48.23	5/48.25
POLY-3 PERCENT (g)	0.0%	0.0%	4.2%	0.0%	30.2%	36.6%	41.5%	10.4%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	2/38 (5%)	0/40 (0%)	11/39 (28%)	14/37 (38%)	15/39 (39%)	4/41 (10%)
FIRST INCIDENCE	---	---	729 (T)	---	655	701	633	676
STATISTICAL TESTS								
LIFE TABLE	P=0.637	(e)	P=0.284	(e)	P=0.013N*	P=0.289	P=0.166	P=0.018N*
POLY 3	P=0.613	(e)	P=0.250	(e)	P=0.008N**	P=0.331	P=0.176	P=0.014N*
POLY 1.5	P=0.605	(e)	P=0.245	(e)	P=0.010N*	P=0.334	P=0.164	P=0.015N*
POLY 6	P=0.624	(e)	P=0.256	(e)	P=0.007N**	P=0.320	P=0.187	P=0.013N*
LOGISTIC REGRESSION	(e)	(e)	P=0.284	(e)	P=0.011N*	P=0.334	P=0.160	P=0.015N*
COCH-ARM / FISHERS	P=0.595	(e)	P=0.247	(e)	P=0.017N*	P=0.333	P=0.146	P=0.020N*

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Oral Cavity (Oral Mucosa, Tongue, Pharynx, Tooth, Gingiva) Squamous Cell Carcinoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	0/50 (0%)	2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	1/50 (2%)	1/50 (2%)	1/50 (2%)
POLY-3 RATE (b)	0/44.85	2/44.95	0/47.38	0/46.53	1/46.11	1/46.49	1/47.00	1/48.05
POLY-3 PERCENT (g)	0.0%	4.5%	0.0%	0.0%	2.2%	2.2%	2.1%	2.1%
TERMINAL (d)	0/31 (0%)	2/38 (5%)	0/38 (0%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	1/39 (3%)	0/41 (0%)
FIRST INCIDENCE	---	729 (T)	---	---	676	675	729 (T)	728
STATISTICAL TESTS								
LIFE TABLE	P=0.363N	P=0.284	(e)	(e)	P=0.612N	P=0.753	P=0.758N	P=0.747N
POLY 3	P=0.395N	P=0.238	(e)	(e)	P=0.623N	P=0.759N	P=0.756N	P=0.751N
POLY 1.5	P=0.399N	P=0.238	(e)	(e)	P=0.626N	P=0.759N	P=0.757N	P=0.754N
POLY 6	P=0.389N	P=0.239	(e)	(e)	P=0.621N	P=0.759N	P=0.757N	P=0.749N
LOGISTIC REGRESSION	(e)	P=0.284	(e)	(e)	P=0.625	P=0.757	P=0.761	P=0.757
COCH-ARM / FISHERS	P=0.405N	P=0.247	(e)	(e)	P=0.634	P=0.753N	P=0.753N	P=0.753N

C 12

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Oral Cavity (Oral Mucosa, Tongue, Pharynx, Tooth, Gingiva) Squamous Cell Carcinoma, Papilloma Squamous, or Papilloma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	0/50 (0%)	2/50 (4%)	1/50 (2%)	0/50 (0%)	2/50 (4%)	1/50 (2%)	1/50 (2%)	2/50 (4%)
POLY-3 RATE (b)	0/44.85	2/44.95	1/47.38	0/46.53	2/46.18	1/46.49	1/47.00	2/48.05
POLY-3 PERCENT (g)	0.0%	4.5%	2.1%	0.0%	4.3%	2.2%	2.1%	4.2%
TERMINAL (d)	0/31 (0%)	2/38 (5%)	1/38 (3%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	1/39 (3%)	1/41 (2%)
FIRST INCIDENCE	---	729 (T)	729 (T)	---	676	675	729 (T)	728
STATISTICAL TESTS								
LIFE TABLE	P=0.408N	P=0.284	P=0.541	(e)	P=0.581	P=0.508N	P=0.497N	P=0.668N
POLY 3	P=0.447N	P=0.238	P=0.511	(e)	P=0.568	P=0.498N	P=0.494N	P=0.679N
POLY 1.5	P=0.453N	P=0.238	P=0.507	(e)	P=0.564	P=0.498N	P=0.495N	P=0.684N
POLY 6	P=0.438N	P=0.239	P=0.516	(e)	P=0.572	P=0.499N	P=0.495N	P=0.676N
LOGISTIC REGRESSION	(e)	P=0.284	P=0.541	(e)	P=0.554	P=0.505N	P=0.501N	P=0.695N
COCH-ARM / FISHERS	P=0.461N	P=0.247	P=0.500	(e)	P=0.556	P=0.500N	P=0.500N	P=0.691N

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Pituitary Gland: Pars Distalis or Unspecified Site Adenoma								
TUMOR RATES								
OVERALL (a)	15/48 (31%)	16/47 (34%)	15/49 (31%)	14/45 (31%)	15/50 (30%)	23/50 (46%)	17/50 (34%)	11/50 (22%)
POLY-3 RATE (b)	15/43.92	16/44.11	15/47.11	14/42.37	15/46.66	23/47.58	17/47.61	11/48.69
POLY-3 PERCENT (g)	34.2%	36.3%	31.8%	33.0%	32.2%	48.3%	35.7%	22.6%
TERMINAL (d)	11/30 (37%)	13/38 (34%)	12/37 (32%)	13/37 (35%)	13/39 (33%)	19/37 (51%)	14/39 (36%)	9/41 (22%)
FIRST INCIDENCE	639	515	627	685	504	577	675	532
STATISTICAL TESTS								
LIFE TABLE	P=0.250N	P=0.429N	P=0.352N	P=0.271N	P=0.059N	P=0.059	P=0.421	P=0.205N
POLY 3	P=0.454N	P=0.506	P=0.495N	P=0.547N	P=0.057N	P=0.079	P=0.442	P=0.207N
POLY 1.5	P=0.470N	P=0.492	P=0.521N	P=0.562N	P=0.065N	P=0.077	P=0.432	P=0.221N
POLY 6	P=0.432N	P=0.527	P=0.465N	P=0.524N	P=0.050N	P=0.083	P=0.449	P=0.194N
LOGISTIC REGRESSION	P=0.436N	P=0.483	P=0.489N	P=0.488N	P=0.071N	P=0.077	P=0.442	P=0.238N
COCH-ARM / FISHERS	P=0.493N	P=0.471	P=0.560N	P=0.583N	P=0.085N	P=0.074	P=0.415	P=0.247N

C 13

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) - P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Pituitary Gland: Pars Distalis or Unspecified Site Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	16/48 (33%)	16/47 (34%)	15/49 (31%)	14/45 (31%)	15/50 (30%)	23/50 (46%)	17/50 (34%)	11/50 (22%)
POLY-3 RATE (b)	16/43.92	16/44.11	15/47.11	14/42.37	15/46.66	23/47.58	17/47.61	11/48.69
POLY-3 PERCENT (g)	36.4%	36.3%	31.8%	33.0%	32.2%	48.3%	35.7%	22.6%
TERMINAL (d)	12/30 (40%)	13/38 (34%)	12/37 (32%)	13/37 (35%)	13/39 (33%)	19/37 (51%)	14/39 (36%)	9/41 (22%)
FIRST INCIDENCE	639	515	627	685	504	577	675	532
STATISTICAL TESTS								
LIFE TABLE	P=0.195N	P=0.340N	P=0.271N	P=0.198N	P=0.059N	P=0.059	P=0.421	P=0.205N
POLY 3	P=0.382N	P=0.582N	P=0.405N	P=0.458N	P=0.057N	P=0.079	P=0.442	P=0.207N
POLY 1.5	P=0.398N	P=0.579	P=0.431N	P=0.474N	P=0.055N	P=0.077	P=0.432	P=0.221N
POLY 6	P=0.361N	P=0.561N	P=0.374N	P=0.434N	P=0.060N	P=0.083	P=0.449	P=0.194N
LOGISTIC REGRESSION	P=0.363N	P=0.570	P=0.396N	P=0.396N	P=0.071N	P=0.077	P=0.442	P=0.238N
COCH-ARM / FISHERS	P=0.420N	P=0.557	P=0.472N	P=0.497N	P=0.085N	P=0.074	P=0.415	P=0.247N

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Pituitary Gland. Pars Intermedia Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	0/48 (0%)	0/47 (0%)	0/49 (0%)	1/45 (2%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	2/50 (4%)
POLY-3 RATE (b)	0/43.32	0/42.88	0/46.38	1/42.20	0/45.91	0/46.28	1/47.20	2/48.05
POLY-3 PERCENT (g)	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	2.1%	4.2%
TERMINAL (d)	0/30 (0%)	0/38 (0%)	0/37 (0%)	1/37 (3%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	---	---	---	729 (T)	---	---	676	728
STATISTICAL TESTS								
LIFE TABLE	P=0.211	(e)	(e)	P=0.542	P=0.081	(e)	P=0.504	P=0.253
POLY 3	P=0.195	(e)	(e)	P=0.495	P=0.075	(e)	P=0.506	P=0.248
POLY 1.5	P=0.193	(e)	(e)	P=0.492	P=0.073	(e)	P=0.504	P=0.244
POLY 6	P=0.198	(e)	(e)	P=0.500	P=0.077	(e)	P=0.507	P=0.251
LOGISTIC REGRESSION	(e)	(e)	(e)	P=0.542	P=0.070	(e)	P=0.487	P=0.256
COCH-ARM / FISHERS	P=0.190	(e)	(e)	P=0.484	P=0.070	(e)	P=0.500	P=0.247

C 14

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Prostate Adenoma								
TUMOR RATES								
OVERALL (a)	2/50 (4%)	2/50 (4%)	2/50 (4%)	0/50 (0%)				
POLY-3 RATE (b)	2/44.85	2/44.95	2/47.41	0/46.53				
POLY-3 PERCENT (g)	4.5%	4.5%	4.2%	0.0%				
TERMINAL (d)	2/31 (7%)	2/38 (5%)	1/38 (3%)	0/40 (0%)				
FIRST INCIDENCE	729 (T)	729 (T)	724	---				
STATISTICAL TESTS								
LIFE TABLE	P=0.122N	P=0.620N	P=0.617N	P=0.184N				
POLY 3	P=0.154N	P=0.693N	P=0.674N	P=0.229N				
POLY 1.5	P=0.158N	P=0.693N	P=0.682N	P=0.233N				
POLY 6	P=0.148N	P=0.691N	P=0.664N	P=0.224N				
LOGISTIC REGRESSION	P=0.134N	P=0.620N	P=0.643N	(e)				
COCH-ARM / FISHERS	P=0.163N	P=0.691N	P=0.691N	P=0.247N				

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Basal Cell Adenoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	1/50 (2%)	0/50 (0%)	1/50 (2%)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	1/45.19	0/44.95	1/47.38	2/46.53	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	2.2%	0.0%	2.1%	4.3%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	1/38 (3%)	2/40 (5%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	637	---	729 (T)	729 (T)	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.290	P=0.514N	P=0.730N	P=0.561	(e)	(e)	(e)	(e)
POLY 3	P=0.257	P=0.501N	P=0.750N	P=0.510	(e)	(e)	(e)	(e)
POLY 1.5	P=0.253	P=0.501N	P=0.754N	P=0.506	(e)	(e)	(e)	(e)
POLY 6	P=0.262	P=0.501N	P=0.745N	P=0.516	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.248	P=0.512N	P=0.740	P=0.496	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.247	P=0.500N	P=0.753N	P=0.500	(e)	(e)	(e)	(e)

D 01

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Basal Cell Adenoma, Basosquamous Tumor Benign, or Trichoepithelioma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	1/50 (2%)	0/50 (0%)	2/50 (4%)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	1/45.19	0/44.95	2/47.38	2/46.53	0/45.91	0/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	2.2%	0.0%	4.2%	4.3%	0.0%	0.0%	0.0%	2.1%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	2/38 (5%)	2/40 (5%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	637	---	729 (T)	729 (T)	---	---	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.295	P=0.514N	P=0.555	P=0.561	P=0.209	(e)	(e)	P=0.510
POLY 3	P=0.257	P=0.501N	P=0.517	P=0.510	P=0.205	(e)	(e)	P=0.509
POLY 1.5	P=0.253	P=0.501N	P=0.510	P=0.506	P=0.203	(e)	(e)	P=0.506
POLY 6	P=0.264	P=0.501N	P=0.524	P=0.516	P=0.207	(e)	(e)	P=0.512
LOGISTIC REGRESSION	P=0.251	P=0.512N	P=0.485	P=0.496	(e)	(e)	(e)	P=0.510
COCH-ARM / FISHERS	P=0.245	P=0.500N	P=0.500	P=0.500	P=0.198	(e)	(e)	P=0.500

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Basal Cell Carcinoma, Basal Cell Adenoma, Basosquamous Tumor (benign, malignant or NOS), or Trichoepithelioma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	1/50 (2%)	1/50 (2%)	2/50 (4%)	3/50 (6%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	1/45.19	1/45.31	2/47.38	3/46.53	0/45.91	0/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	2.2%	2.2%	4.2%	6.5%	0.0%	0.0%	0.0%	2.1%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	2/38 (5%)	3/40 (8%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	637	627	729 (T)	729 (T)	---	---	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.208	P=0.747	P=0.555	P=0.379	P=0.209	(e)	(e)	P=0.510
POLY 3	P=0.175	P=0.760N	P=0.517	P=0.316	P=0.205	(e)	(e)	P=0.509
POLY 1.5	P=0.171	P=0.760N	P=0.510	P=0.312	P=0.203	(e)	(e)	P=0.506
POLY 6	P=0.179	P=0.759N	P=0.524	P=0.322	P=0.207	(e)	(e)	P=0.512
LOGISTIC REGRESSION	P=0.161	P=0.752	P=0.485	P=0.308	(e)	(e)	(e)	P=0.510
COCH-ARM / FISHERS	P=0.165	P=0.753N	P=0.500	P=0.309	P=0.198	(e)	(e)	P=0.500

D 02

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Basal or Sq. Cell Carcinoma, Carcinoma, Basosq. Tumor (M or B), Basal Cell Adenoma, Adenoma, Papilloma, Sq Papilloma, Keratoacanthoma, Trichoepitheliom								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	4/50 (8%)	6/50 (12%)	5/50 (10%)	4/50 (8%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	4/45.19	6/45.31	5/47.38	4/46.53	0/45.91	0/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	8.9%	13.2%	10.6%	8.6%	0.0%	0.0%	0.0%	2.1%
TERMINAL (d)	3/31 (10%)	5/38 (13%)	5/38 (13%)	4/40 (10%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	637	627	729 (T)	729 (T)	---	---	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.357N	P=0.467	P=0.617	P=0.515N	P=0.209	(e)	(e)	P=0.510
POLY 3	P=0.460N	P=0.371	P=0.530	P=0.627N	P=0.205	(e)	(e)	P=0.509
POLY 1.5	P=0.469N	P=0.371	P=0.518	P=0.633N	P=0.203	(e)	(e)	P=0.506
POLY 6	P=0.446N	P=0.375	P=0.543	P=0.617N	P=0.207	(e)	(e)	P=0.512
LOGISTIC REGRESSION	P=0.442N	P=0.371	P=0.548	P=0.616N	(e)	(e)	(e)	P=0.510
COCH-ARM / FISHERS	P=0.484N	P=0.370	P=0.500	P=0.643N	P=0.198	(e)	(e)	P=0.500

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Fibroma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	1/50 (2%)	2/50 (4%)	7/50 (14%)	1/50 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	1/44.99	2/44.95	7/47.78	1/47.00	0/45.91	0/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	2.2%	4.5%	14.7%	2.1%	0.0%	0.0%	0.0%	2.1%
TERMINAL (d)	0/31 (0%)	2/38 (5%)	5/38 (13%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	695	729 (T)	676	591	---	---	---	728
STATISTICAL TESTS								
LIFE TABLE	P=0.564N	P=0.550	P=0.057	P=0.752N	P=0.211	(e)	(e)	P=0.515
POLY 3	P=0.561	P=0.500	P=0.037 *	P=0.751N	P=0.205	(e)	(e)	P=0.509
POLY 1.5	P=0.544	P=0.500	P=0.034 *	P=0.755N	P=0.203	(e)	(e)	P=0.506
POLY 6	P=0.584	P=0.501	P=0.041 *	P=0.745N	P=0.207	(e)	(e)	P=0.512
LOGISTIC REGRESSION	P=0.520	P=0.503	P=0.035 *	P=0.729	P=0.210	(e)	(e)	P=0.516
COCH-ARM / FISHERS	P=0.521	P=0.500	P=0.030 *	P=0.753N	P=0.198	(e)	(e)	P=0.500

D 03

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) - P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Fibroma, Fibrosarcoma, Sarcoma, Myxoma, Myxosarcoma, or Fibrous Histiocytoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	2/50 (4%)	9/50 (18%)	1/50 (2%)	2/50 (4%)	1/50 (2%)	0/50 (0%)	2/50 (4%)
POLY-3 RATE (b)	2/44.99	2/44.95	9/47.82	1/47.00	2/45.91	1/46.31	0/47.00	2/48.05
POLY-3 PERCENT (g)	4.5%	4.5%	18.8%	2.1%	4.4%	2.2%	0.0%	4.2%
TERMINAL (d)	1/31 (3%)	2/38 (5%)	5/38 (13%)	0/40 (0%)	2/39 (5%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	695	729 (T)	676	591	729 (T)	724	---	728
STATISTICAL TESTS								
LIFE TABLE	P=0.445N	P=0.636N	P=0.059	P=0.462N	P=0.614	P=0.509N	P=0.238N	P=0.673N
POLY 3	P=0.497N	P=0.694	P=0.032 *	P=0.485N	P=0.601	P=0.497N	P=0.232N	P=0.677N
POLY 1.5	P=0.514N	P=0.694	P=0.029 *	P=0.491N	P=0.597	P=0.498N	P=0.234N	P=0.683N
POLY 6	P=0.472N	P=0.693N	P=0.036 *	P=0.475N	P=0.604	P=0.497N	P=0.231N	P=0.672N
LOGISTIC REGRESSION	P=0.528N	P=0.690N	P=0.033 *	P=0.531N	P=0.617	P=0.501N	(e)	P=0.663N
COCH-ARM / FISHERS	P=0.537N	P=0.691N	P=0.026 *	P=0.500N	P=0.591	P=0.500N	P=0.247N	P=0.691N

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Fibrosarcoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	0/50 (0%)	0/50 (0%)	2/50 (4%)	0/50 (0%)	1/50 (2%)	1/50 (2%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/44.85	0/44.95	2/47.43	0/46.53	1/45.91	1/46.31	0/47.00	1/48.05
POLY-3 PERCENT (g)	0.0%	0.0%	4.2%	0.0%	2.2%	2.2%	0.0%	2.1%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	0/38 (0%)	0/40 (0%)	1/39 (3%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	---	---	724	---	729 (T)	724	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.628	(e)	P=0.287	(e)	P=0.595N	P=0.757	P=0.500N	P=0.751N
POLY 3	P=0.613	(e)	P=0.250	(e)	P=0.611N	P=0.759N	P=0.495N	P=0.750N
POLY 1.5	P=0.605	(e)	P=0.245	(e)	P=0.612N	P=0.759N	P=0.497N	P=0.754N
POLY 6	P=0.624	(e)	P=0.256	(e)	P=0.610N	P=0.759N	P=0.495N	P=0.747N
LOGISTIC REGRESSION	P=0.614	(e)	P=0.262	(e)	P=0.595N	P=0.763	(e)	P=0.751N
COCH-ARM / FISHERS	P=0.595	(e)	P=0.247	(e)	P=0.616N	P=0.753N	P=0.500N	P=0.753N

D 04

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Fibrosarcoma, Sarcoma, Myxosarcoma, or Fibrous Histiocytoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	1/50 (2%)	0/50 (0%)	2/50 (4%)	0/50 (0%)	2/50 (4%)	1/50 (2%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	1/44.85	0/44.95	2/47.43	0/46.53	2/45.91	1/46.31	0/47.00	1/48.05
POLY-3 PERCENT (g)	2.2%	0.0%	4.2%	0.0%	4.4%	2.2%	0.0%	2.1%
TERMINAL (d)	1/31 (3%)	0/38 (0%)	0/38 (0%)	0/40 (0%)	2/39 (5%)	0/37 (0%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	729 (T)	---	724	---	729 (T)	724	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.416N	P=0.459N	P=0.573	P=0.449N	P=0.348N	P=0.509N	P=0.238N	P=0.483N
POLY 3	P=0.449N	P=0.500N	P=0.519	P=0.493N	P=0.363N	P=0.497N	P=0.232N	P=0.484N
POLY 1.5	P=0.454N	P=0.500N	P=0.512	P=0.496N	P=0.364N	P=0.498N	P=0.234N	P=0.490N
POLY 6	P=0.442N	P=0.498N	P=0.529	P=0.488N	P=0.361N	P=0.497N	P=0.231N	P=0.479N
LOGISTIC REGRESSION	P=0.434N	(e)	P=0.543	(e)	P=0.344N	P=0.501N	(e)	P=0.483N
COCH-ARM / FISHERS	P=0.461N	P=0.500N	P=0.500	P=0.500N	P=0.366N	P=0.500N	P=0.247N	P=0.500N

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Hemangioma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/44.85	0/44.95	0/47.38	0/46.53	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	2/31 (7%)	0/38 (0%)	0/38 (0%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	729 (T)	---	---	---	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.095N	P=0.195N	P=0.195N	P=0.184N	(e)	(e)	(e)	(e)
POLY 3	P=0.113N	P=0.237N	P=0.225N	P=0.229N	(e)	(e)	(e)	(e)
POLY 1.5	P=0.113N	P=0.237N	P=0.230N	P=0.233N	(e)	(e)	(e)	(e)
POLY 6	P=0.113N	P=0.235N	P=0.219N	P=0.224N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.095N	(e)	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.115N	P=0.247N	P=0.247N	P=0.247N	(e)	(e)	(e)	(e)

D 05

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Keratoacanthoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	5/50 (10%)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/44.85	5/44.95	2/47.38	0/46.53	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	4.5%	11.1%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	2/31 (7%)	5/38 (13%)	2/38 (5%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	729 (T)	729 (T)	729 (T)	---	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.057N	P=0.304	P=0.620N	P=0.184N	(e)	(e)	(e)	(e)
POLY 3	P=0.082N	P=0.217	P=0.674N	P=0.229N	(e)	(e)	(e)	(e)
POLY 1.5	P=0.086N	P=0.217	P=0.682N	P=0.233N	(e)	(e)	(e)	(e)
POLY 6	P=0.076N	P=0.218	P=0.664N	P=0.224N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.057N	P=0.304	P=0.620N	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.092N	P=0.218	P=0.691N	P=0.247N	(e)	(e)	(e)	(e)

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Squamous Cell Papilloma, Papilloma, Squamous Cell Carcinoma or Keratoacanthoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	3/50 (6%)	5/50 (10%)	3/50 (6%)	1/50 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	3/44.85	5/44.95	3/47.38	1/46.53	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	6.7%	11.1%	6.3%	2.2%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	3/31 (10%)	5/38 (13%)	3/38 (8%)	1/40 (3%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	729 (T)	729 (T)	729 (T)	729 (T)	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.097N	P=0.472	P=0.566N	P=0.219N	(e)	(e)	(e)	(e)
POLY 3	P=0.142N	P=0.357	P=0.637N	P=0.292N	(e)	(e)	(e)	(e)
POLY 1.5	P=0.149N	P=0.357	P=0.647N	P=0.298N	(e)	(e)	(e)	(e)
POLY 6	P=0.134N	P=0.360	P=0.624N	P=0.284N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.097N	P=0.472	P=0.566N	P=0.219N	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.157N	P=0.357	P=0.661N	P=0.309N	(e)	(e)	(e)	(e)

D 06

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Skin Squamous Cell Papilloma, Papilloma, or Keratoacanthoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	3/50 (6%)	5/50 (10%)	3/50 (6%)	1/50 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	3/44.85	5/44.95	3/47.38	1/46.53	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	6.7%	11.1%	6.3%	2.2%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	3/31 (10%)	5/38 (13%)	3/38 (8%)	1/40 (3%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	729 (T)	729 (T)	729 (T)	729 (T)	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.097N	P=0.472	P=0.566N	P=0.219N	(e)	(e)	(e)	(e)
POLY 3	P=0.142N	P=0.357	P=0.637N	P=0.292N	(e)	(e)	(e)	(e)
POLY 1.5	P=0.149N	P=0.357	P=0.647N	P=0.298N	(e)	(e)	(e)	(e)
POLY 6	P=0.134N	P=0.360	P=0.624N	P=0.284N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.097N	P=0.472	P=0.566N	P=0.219N	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.157N	P=0.357	P=0.661N	P=0.309N	(e)	(e)	(e)	(e)

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Testes Adenoma								
TUMOR RATES								
OVERALL (a)	49/50 (98%)	46/50 (92%)	45/50 (90%)	34/50 (68%)				
POLY-3 RATE (b)	49/49.14	46/49.12	45/48.55	34/46.93				
POLY-3 PERCENT (g)	99.7%	93.6%	92.7%	72.5%				
TERMINAL (d)	31/31 (100%)	36/38 (95%)	37/38 (97%)	31/40 (78%)				
FIRST INCIDENCE	504	490	621	685				
STATISTICAL TESTS								
LIFE TABLE	P<0.001N**	P=0.051N	P=0.015N*	P<0.001N**				
POLY 3	P<0.001N**	P=0.110N	P=0.066N	P<0.001N**				
POLY 1.5	P<0.001N**	P=0.118N	P=0.067N	P<0.001N**				
POLY 6	P<0.001N**	P=0.130N	P=0.097N	P<0.001N**				
LOGISTIC REGRESSION	P<0.001N**	P=0.146N	P=0.009N**	P<0.001N**				
COCH-ARM / FISHERS	P<0.001N**	P=0.181N	P=0.102N	P<0.001N**				

D 07

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Thymus								
Thymoma Malignant								
TUMOR RATES								
OVERALL (a)	0/49 (0%)	0/47 (0%)	1/44 (2%)	2/46 (4%)	0/48 (0%)	0/48 (0%)	0/45 (0%)	0/50 (0%)
POLY-3 RATE (b)	0/43.95	0/42.44	1/42.16	2/43.22	0/43.91	0/44.40	0/42.41	0/48.05
POLY-3 PERCENT (g)	0.0%	0.0%	2.4%	4.6%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	0/31 (0%)	0/36 (0%)	1/36 (3%)	1/36 (3%)	0/37 (0%)	0/36 (0%)	0/36 (0%)	0/41 (0%)
FIRST INCIDENCE	---	---	729 (T)	497	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.077	(e)	P=0.530	P=0.256	(e)	(e)	(e)	(e)
POLY 3	P=0.071	(e)	P=0.492	P=0.233	(e)	(e)	(e)	(e)
POLY 1.5	P=0.069	(e)	P=0.486	P=0.229	(e)	(e)	(e)	(e)
POLY 6	P=0.074	(e)	P=0.499	P=0.239	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.051	(e)	P=0.530	P=0.166	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.066	(e)	P=0.473	P=0.232	(e)	(e)	(e)	(e)

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Thyroid Gland: C-Cell								
Adenoma								
TUMOR RATES								
OVERALL (a)	11/50 (22%)	7/50 (14%)	5/50 (10%)	4/50 (8%)	6/50 (12%)	3/50 (6%)	9/50 (18%)	2/50 (4%)
POLY-3 RATE (b)	11/45.06	7/44.95	5/47.41	4/46.53	6/45.91	3/46.28	9/47.20	2/48.05
POLY-3 PERCENT (g)	24.4%	15.6%	10.6%	8.6%	13.1%	6.5%	19.1%	4.2%
TERMINAL (d)	7/31 (23%)	7/38 (18%)	4/38 (11%)	4/40 (10%)	6/39 (15%)	3/37 (8%)	8/39 (21%)	2/41 (5%)
FIRST INCIDENCE	704	729 (T)	724	729 (T)	729 (T)	729 (T)	676	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.013N*	P=0.118N	P=0.043N*	P=0.018N*	P=0.181N	P=0.267N	P=0.288	P=0.118N
POLY 3	P=0.025N*	P=0.216N	P=0.067N	P=0.037N*	P=0.183N	P=0.238N	P=0.307	P=0.119N
POLY 1.5	P=0.028N*	P=0.216N	P=0.074N	P=0.040N*	P=0.193N	P=0.239N	P=0.301	P=0.124N
POLY 6	P=0.023N*	P=0.213N	P=0.059N	P=0.033N*	P=0.173N	P=0.238N	P=0.311	P=0.114N
LOGISTIC REGRESSION	P=0.017N*	P=0.179N	P=0.048N*	P=0.026N*	P=0.177N	P=0.267N	P=0.295	P=0.118N
COCH-ARM / FISHERS	P=0.032N*	P=0.218N	P=0.086N	P=0.045N*	P=0.213N	P=0.243N	P=0.288	P=0.134N

D 08

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Thyroid Gland: C-Cell Carcinoma								
TUMOR RATES								
OVERALL (a)	0/50 (0%)	0/50 (0%)	1/50 (2%)	2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	1/50 (2%)
POLY-3 RATE (b)	0/44.85	0/44.95	1/47.59	2/46.53	0/45.91	0/46.28	1/47.00	1/48.05
POLY-3 PERCENT (g)	0.0%	0.0%	2.1%	4.3%	0.0%	0.0%	2.1%	2.1%
TERMINAL (d)	0/31 (0%)	0/[illegible] (0%)	0/38 (0%)	2/40 (5%)	0/39 (0%)	0/37 (0%)	1/39 (3%)	1/41 (2%)
FIRST INCIDENCE	---	---	676	729 (T)	---	---	729 (T)	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.088	(e)	P=0.519	P=0.296	P=0.250	(e)	P=0.500	P=0.510
POLY 3	P=0.074	(e)	P=0.512	P=0.245	P=0.249	(e)	P=0.505	P=0.509
POLY 1.5	P=0.073	(e)	P=0.507	P=0.242	P=0.245	(e)	P=0.503	P=0.506
POLY 6	P=0.077	(e)	P=0.518	P=0.251	P=0.254	(e)	P=0.505	P=0.512
LOGISTIC REGRESSION	P=0.072	(e)	P=0.465	P=0.296	(e)	(e)	P=0.500	P=0.510
COCH-ARM / FISHERS	P=0.070	(e)	P=0.500	P=0.247	P=0.236	(e)	P=0.500	P=0.500

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Thyroid Gland: C-Cell Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	11/50 (22%)	7/50 (14%)	6/50 (12%)	6/50 (12%)	6/50 (12%)	3/50 (6%)	10/50 (20%)	3/50 (6%)
POLY-3 RATE (b)	11/45.06	7/44.95	6/47.61	6/46.53	6/45.91	3/46.28	10/47.20	3/48.05
POLY-3 PERCENT (g)	24.4%	15.6%	12.6%	12.9%	13.1%	6.5%	21.2%	6.2%
TERMINAL (d)	7/31 (23%)	7/38 (18%)	4/38 (11%)	6/40 (15%)	6/39 (15%)	3/37 (8%)	9/39 (23%)	3/41 (7%)
FIRST INCIDENCE	704	729 (T)	676	729 (T)	729 (T)	729 (T)	676	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.061N	P=0.118N	P=0.078N	P=0.061N	P=0.306N	P=0.267N	P=0.206	P=0.217N
POLY 3	P=0.110N	P=0.216N	P=0.114N	P=0.124N	P=0.312N	P=0.238N	P=0.223	P=0.220N
POLY 1.5	P=0.117N	P=0.216N	P=0.125N	P=0.132N	P=0.326N	P=0.239N	P=0.218	P=0.228N
POLY 6	P=0.101N	P=0.213N	P=0.101N	P=0.114N	P=0.298N	P=0.238N	P=0.226	P=0.213N
LOGISTIC REGRESSION	P=0.083N	P=0.179N	P=0.095N	P=0.089N	P=0.300N	P=0.267N	P=0.211	P=0.217N
COCH-ARM / FISHERS	P=0.128N	P=0.218N	P=0.143N	P=0.143N	P=0.351N	P=0.243N	P=0.207	P=0.243N

D 09

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Thyroid Gland: Follicular Cell Carcinoma								
TUMOR RATES								
OVERALL (a)	0/50 (0%)	2/50 (4%)	2/50 (4%)	0/50 (0%)	1/50 (2%)	1/50 (2%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/44.85	2/45.60	2/47.58	0/46.53	1/45.91	1/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	0.0%	4.4%	4.2%	0.0%	2.2%	2.2%	0.0%	2.1%
TERMINAL (d)	0/31 (0%)	1/38 (3%)	1/38 (3%)	0/40 (0%)	1/39 (3%)	1/37 (3%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	---	516	679	---	729 (T)	729 (T)	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.462N	P=0.262	P=0.270	(e)	P=0.597N	P=0.750	P=0.500N	P=0.751N
POLY 3	P=0.482N	P=0.241	P=0.251	(e)	P=0.611N	P=0.759N	P=0.495N	P=0.750N
POLY 1.5	P=0.490N	P=0.239	P=0.245	(e)	P=0.612N	P=0.759N	P=0.497N	P=0.754N
POLY 6	P=0.471N	P=0.243	P=0.258	(e)	P=0.610N	P=0.759N	P=0.495N	P=0.747N
LOGISTIC REGRESSION	P=0.549N	P=0.215	P=0.232	(e)	P=0.597N	P=0.750	(e)	P=0.751N
COCH-ARM / FISHERS	P=0.500N	P=0.247	P=0.247	(e)	P=0.616N	P=0.753N	P=0.500N	P=0.753N

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Thyroid Gland: Follicular Cell Carcinoma or Adenoma								
TUMOR RATES								
OVERALL (a)	0/50 (0%)	2/50 (4%)	2/50 (4%)	1/50 (2%)	1/50 (2%)	1/50 (2%)	0/50 (0%)	1/50 (2%)
POLY-3 RATE (b)	0/44.85	2/45.60	2/47.58	1/46.53	1/45.91	1/46.28	0/47.00	1/48.05
POLY-3 PERCENT (g)	0.0%	4.4%	4.2%	2.2%	2.2%	2.2%	0.0%	2.1%
TERMINAL (d)	0/31 (0%)	1/38 (3%)	1/38 (3%)	1/40 (3%)	1/39 (3%)	1/37 (3%)	0/39 (0%)	1/41 (2%)
FIRST INCIDENCE	---	516	679	729 (T)	729 (T)	729 (T)	---	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P=0.518	P=0.262	P=0.270	P=0.551	P=0.597N	P=0.750	P=0.500N	P=0.751N
POLY 3	P=0.490	P=0.241	P=0.251	P=0.507	P=0.611N	P=0.759N	P=0.495N	P=0.750N
POLY 1.5	P=0.481	P=0.239	P=0.245	P=0.504	P=0.612N	P=0.759N	P=0.497N	P=0.754N
POLY 6	P=0.503	P=0.243	P=0.258	P=0.512	P=0.610N	P=0.759N	P=0.495N	P=0.747N
LOGISTIC REGRESSION	P=0.433	P=0.215	P=0.232	P=0.551	P=0.597N	P=0.750	(e)	P=0.751N
COCH-ARM / FISHERS	P=0.469	P=0.247	P=0.247	P=0.500	P=0.616N	P=0.753N	P=0.500N	P=0.753N

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Uterus Polyp Stromal								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)					6/50 (12%)	4/50 (8%)	11/50 (22%)	8/50 (16%)
POLY-3 RATE (b)					6/45.91	4/46.39	11/47.28	8/48.23
POLY-3 PERCENT (g)					13.1%	8.6%	23.3%	16.6%
TERMINAL (d)					6/39 (15%)	3/37 (8%)	10/39 (26%)	6/41 (15%)
FIRST INCIDENCE					729 (T)	702	655	690
STATISTICAL TESTS								
LIFE TABLE					P=0.247	P=0.400N	P=0.143	P=0.430
POLY 3					P=0.232	P=0.363N	P=0.157	P=0.425
POLY 1.5					P=0.219	P=0.365N	P=0.152	P=0.412
POLY 6					P=0.246	P=0.362N	P=0.159	P=0.439
LOGISTIC REGRESSION					P=0.241	P=0.369N	P=0.150	P=0.439
COCH-ARM / FISHERS					P=0.198	P=0.370N	P=0.143	P=0.387

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Zymbal's Gland Carcinoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	2/45.14	0/44.95	0/47.38	1/46.67	0/45.91	0/46.28	1/47.33	0/48.05
POLY-3 PERCENT (g)	4.4%	0.0%	0.0%	2.1%	0.0%	0.0%	2.1%	0.0%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	0/38 (0%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	681	---	---	693	---	---	639	---
STATISTICAL TESTS								
LIFE TABLE	P=0.434N	P=0.237N	P=0.221N	P=0.466N	P=0.702	(e)	P=0.513	(e)
POLY 3	P=0.457N	P=0.238N	P=0.227N	P=0.488N	P=0.711	(e)	P=0.506	(e)
POLY 1.5	P=0.459N	P=0.238N	P=0.231N	P=0.493N	P=0.705	(e)	P=0.504	(e)
POLY 6	P=0.456N	P=0.238N	P=0.222N	P=0.481N	P=0.717	(e)	P=0.508	(e)
LOGISTIC REGRESSION	P=0.472N	P=0.238N	P=0.249N	P=0.510N	P=0.658	(e)	P=0.473	(e)
COCH-ARM / FISHERS	P=0.461N	P=0.247N	P=0.247N	P=0.500N	P=0.694	(e)	P=0.500	(e)

D 11

Statistical Analysis of Primary Tumors in Rats(FISCHER 344) P-NITROTOLUENE

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
Zymbal's Gland Carcinoma or Adenoma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	2/45.14	0/44.95	0/47.38	2/46.67	0/45.91	0/46.28	1/47.33	0/48.05
POLY-3 PERCENT (g)	4.4%	0.0%	0.0%	4.3%	0.0%	0.0%	2.1%	0.0%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	0/38 (0%)	1/40 (3%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	681	---	---	693	---	---	639	---
STATISTICAL TESTS								
LIFE TABLE	P=0.539	P=0.237N	P=0.221N	P=0.642N	P=0.702	(e)	P=0.513	(e)
POLY 3	P=0.508	P=0.238N	P=0.227N	P=0.682N	P=0.711	(e)	P=0.506	(e)
POLY 1.5	P=0.505	P=0.238N	P=0.231N	P=0.687N	P=0.705	(e)	P=0.504	(e)
POLY 6	P=0.512	P=0.238N	P=0.222N	P=0.675N	P=0.717	(e)	P=0.508	(e)
LOGISTIC REGRESSION	P=0.497	P=0.238N	P=0.249N	P=0.695	P=0.658	(e)	P=0.473	(e)
COCH-ARM / FISHERS	P=0.500	P=0.247N	P=0.247N	P=0.691N	P=0.694	(e)	P=0.500	(e)

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
All Organs Hemangioma								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	2/44.85	0/44.95	0/47.38	0/46.53	1/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	4.5%	0.0%	0.0%	0.0%	2.2%	0.0%	0.0%	0.0%
TERMINAL (d)	2/31 (7%)	0/38 (0%)	0/38 (0%)	0/40 (0%)	1/39 (3%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	729 (T)	---	---	---	729 (T)	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.095N	P=0.195N	P=0.195N	P=0.184N	P=0.299N	P=0.511N	P=0.500N	P=0.490N
POLY 3	P=0.113N	P=0.237N	P=0.225N	P=0.229N	P=0.310N	P=0.498N	P=0.495N	P=0.491N
POLY 1.5	P=0.113N	P=0.237N	P=0.230N	P=0.233N	P=0.309N	P=0.499N	P=0.497N	P=0.494N
POLY 6	P=0.113N	P=0.235N	P=0.219N	P=0.224N	P=0.311N	P=0.499N	P=0.495N	P=0.488N
LOGISTIC REGRESSION	P=0.095N	(e)	(e)	(e)	P=0.299N	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.115N	P=0.247N	P=0.247N	P=0.247N	P=0.306N	P=0.500N	P=0.500N	P=0.500N

D 12

Dose	Males 0 PPM	1250 PPM	2500 PPM	5000 PPM	Females 0 PPM	1250 PPM	2500 PPM	5000 PPM
All Organs Leukemia: Lymphocytic, Monocytic, Mononuclear, or Undifferentiated								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	24/50 (48%)	12/50 (24%)	5/50 (10%)	4/50 (8%)	13/50 (26%)	12/50 (24%)	3/50 (6%)	1/50 (2%)
POLY-3 RATE (b)	24/46.50	12/46.70	5/47.64	4/46.79	13/46.98	12/49.07	3/47.37	1/48.05
POLY-3 PERCENT (g)	51.6%	25.7%	10.5%	8.6%	27.7%	24.5%	6.3%	2.1%
TERMINAL (d)	13/31 (42%)	7/38 (18%)	3/38 (8%)	2/40 (5%)	10/39 (26%)	5/37 (14%)	1/39 (3%)	1/41 (2%)
FIRST INCIDENCE	592	581	668	685	380	387	676	729 (T)
STATISTICAL TESTS								
LIFE TABLE	P<0.001N**	P=0.008N**	P<0.001N**	P<0.001N**	P<0.001N**	P=0.528N	P=0.010N*	P<0.001N**
POLY 3	P<0.001N**	P=0.007N**	P<0.001N**	P<0.001N**	P<0.001N**	P=0.450N	P=0.005N**	P<0.001N**
POLY 1.5	P<0.001N**	P=0.008N**	P<0.001N**	P<0.001N**	P<0.001N**	P=0.470N	P=0.005N**	P<0.001N**
POLY 6	P<0.001N**	P=0.007N**	P<0.001N**	P<0.001N**	P<0.001N**	P=0.429N	P=0.005N**	P<0.001N**
LOGISTIC REGRESSION	P<0.001N**	P=0.011N*	P<0.001N**	P<0.001N**	P<0.001N**	P=0.529N	P=0.008N**	P<0.001N**
COCH-ARM / FISHERS	P<0.001N**	P=0.011N*	P<0.001N**	P<0.001N**	P<0.001N**	P=0.500N	P=0.006N**	P<0.001N**

Dose	Males 0 PPM	1250 PPM	2500 PPM	5000 PPM	Females 0 PPM	1250 PPM	2500 PPM	5000 PPM
All Organs Malignant Lymphoma: Histiocytic, Lymphocytic, Mixed, NOS, or Undifferentiated Cell Type								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	2/50 (4%)	0/50 (0%)	0/50 (0%)	1/50 (2%)	0/50 (0%)	1/50 (2%)	1/50 (2%)	0/50 (0%)
POLY-3 RATE (b)	2/46.18	0/44.95	0/47.38	1/46.67	0/45.91	1/46.31	1/47.19	0/48.05
POLY-3 PERCENT (g)	4.3%	0.0%	0.0%	2.1%	0.0%	2.2%	2.1%	0.0%
TERMINAL (d)	0/31 (0%)	0/38 (0%)	0/38 (0%)	0/40 (0%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	378	---	---	693	---	724	679	---
STATISTICAL TESTS								
LIFE TABLE	P=0.451N	P=0.244N	P=0.237N	P=0.488N	P=0.579N	P=0.505	P=0.495	(e)
POLY 3	P=0.454N	P=0.243N	P=0.232N	P=0.496N	P=0.582N	P=0.502	P=0.506	(e)
POLY 1.5	P=0.457N	P=0.241N	P=0.234N	P=0.499N	P=0.586N	P=0.501	P=0.504	(e)
POLY 6	P=0.453N	P=0.244N	P=0.228N	P=0.491N	P=0.578N	P=0.502	P=0.507	(e)
LOGISTIC REGRESSION	P=0.634N	P=0.295N	P=0.574N	P=0.648N	P=0.604N	P=0.501	P=0.488	(e)
COCH-ARM / FISHERS	P=0.461N	P=0.247N	P=0.247N	P=0.500N	P=0.595N	P=0.500	P=0.500	(e)

D 13

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
All Organs Mesothelioma: Benign, Malignant, NOS								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	5/50 (10%)	2/50 (4%)	1/50 (2%)	4/50 (8%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	5/45.94	2/45.21	1/47.58	4/47.22	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	10.9%	4.4%	2.1%	8.5%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	3/31 (10%)	1/38 (3%)	0/38 (0%)	3/40 (8%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	504	659	679	496	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.427N	P=0.180N	P=0.082N	P=0.397N	(e)	(e)	(e)	(e)
POLY 3	P=0.485N	P=0.222N	P=0.094N	P=0.483N	(e)	(e)	(e)	(e)
POLY 1.5	P=0.491N	P=0.220N	P=0.097N	P=0.490N	(e)	(e)	(e)	(e)
POLY 6	P=0.478N	P=0.222N	P=0.089N	P=0.472N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.567N	P=0.219N	P=0.153N	P=0.564N	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.500N	P=0.218N	P=0.102N	P=0.500N	(e)	(e)	(e)	(e)

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
All Organs Mesothelioma: Malignant								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	5/50 (10%)	2/50 (4%)	1/50 (2%)	4/50 (8%)	0/50 (0%)	0/50 (0%)	0/50 (0%)	0/50 (0%)
POLY-3 RATE (b)	5/45.94	2/45.21	1/47.58	4/47.22	0/45.91	0/46.28	0/47.00	0/48.05
POLY-3 PERCENT (g)	10.9%	4.4%	2.1%	8.5%	0.0%	0.0%	0.0%	0.0%
TERMINAL (d)	3/31 (10%)	1/38 (3%)	0/38 (0%)	3/40 (8%)	0/39 (0%)	0/37 (0%)	0/39 (0%)	0/41 (0%)
FIRST INCIDENCE	504	659	679	496	---	---	---	---
STATISTICAL TESTS								
LIFE TABLE	P=0.427N	P=0.180N	P=0.082N	P=0.397N	(e)	(e)	(e)	(e)
POLY 3	P=0.485N	P=0.222N	P=0.094N	P=0.483N	(e)	(e)	(e)	(e)
POLY 1.5	P=0.491N	P=0.220N	P=0.097N	P=0.490N	(e)	(e)	(e)	(e)
POLY 6	P=0.478N	P=0.222N	P=0.089N	P=0.472N	(e)	(e)	(e)	(e)
LOGISTIC REGRESSION	P=0.567N	P=0.219N	P=0.153N	P=0.564N	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.500N	P=0.218N	P=0.102N	P=0.500N	(e)	(e)	(e)	(e)

D 14

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
All Organs Benign Tumors								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	49/50 (98%)	50/50 (100%)	48/50 (96%)	41/50 (82%)	33/50 (66%)	39/50 (78%)	41/50 (82%)	27/50 (54%)
POLY-3 RATE (b)	49/49.14	50/50.00	48/49.37	41/47.40	33/47.14	39/47.72	41/49.45	27/49.05
POLY-3 PERCENT (g)	99.7%	100.0%	97.2%	86.5%	70.0%	81.7%	82.9%	55.1%
TERMINAL (d)	31/31 (100%)	38/38 (100%)	37/38 (97%)	37/40 (93%)	28/39 (72%)	32/37 (87%)	33/39 (85%)	22/41 (54%)
FIRST INCIDENCE	504	490	621	591	504	577	387	532
STATISTICAL TESTS								
LIFE TABLE	P<0.001N**	P=0.174N	P=0.061N	P<0.001N**	P=0.034N*	P=0.095	P=0.089	P=0.111N
POLY 3	P<0.001N**	P=1.000	P=0.416N	P=0.006N**	P=0.018N*	P=0.128	P=0.098	P=0.093N
POLY 1.5	P<0.001N**	P=0.952	P=0.426N	P=0.005N**	P=0.027N*	P=0.129	P=0.079	P=0.112N
POLY 6	P<0.001N**	P=1.000	P=0.454N	P=0.013N*	P=0.012N*	P=0.126	P=0.119	P=0.078N
LOGISTIC REGRESSION	P<0.001N**	(e)	P=0.164N	P<0.001N**	P=0.030N*	P=0.138	P=0.068	P=0.100N
COCH-ARM / FISHERS	P<0.001N**	P=0.500	P=0.500N	P=0.008N**	P=0.059N	P=0.133	P=0.055	P=0.154N

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
All Organs Malignant Tumors								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	33/50 (66%)	22/50 (44%)	15/50 (30%)	20/50 (40%)	22/50 (44%)	22/50 (44%)	16/50 (32%)	7/50 (14%)
POLY-3 RATE (b)	33/49.67	22/49.42	15/48.26	20/48.68	22/47.70	22/49.67	16/48.47	7/48.20
POLY-3 PERCENT (g)	66.4%	44.5%	31.1%	41.1%	46.1%	44.3%	33.0%	14.5%
TERMINAL (d)	15/31 (48%)	12/38 (32%)	8/38 (21%)	13/40 (33%)	17/39 (44%)	10/37 (27%)	9/39 (23%)	5/41 (12%)
FIRST INCIDENCE	378	490	668	496	380	387	633	690
STATISTICAL TESTS								
LIFE TABLE	P=0.006N**	P=0.026N*	P<0.001N**	P=0.006N**	P<0.001N**	P=0.525	P=0.175N	P<0.001N**
POLY 3	P=0.009N**	P=0.021N*	P<0.001N**	P=0.008N**	P<0.001N**	P=0.509N	P=0.133N	P<0.001N**
POLY 1.5	P=0.009N**	P=0.021N*	P<0.001N**	P=0.008N**	P<0.001N**	P=0.537N	P=0.141N	P<0.001N**
POLY 6	P=0.010N*	P=0.022N*	P<0.001N**	P=0.010N*	P<0.001N**	P=0.476N	P=0.124N	P<0.001N**
LOGISTIC REGRESSION	P=0.017N*	P=0.018N*	P<0.001N**	P=0.012N*	P<0.001N**	P=0.563	P=0.159N	P<0.001N**
COCH-ARM / FISHERS	P=0.009N**	P=0.022N*	P<0.001N**	P=0.008N**	P<0.001N**	P=0.580N	P=0.151N	P<0.001N**

Date: 01/04/01 EXPERIMENT: 05205 TEST: 07 P-NITROTOLUENE

Statistical Analysis of Primary Tumors in Rats(FISCHER 344)

Terminal Sacrifice at 105 weeks

Dose	Males 0 PPM	Males 1250 PPM	Males 2500 PPM	Males 5000 PPM	Females 0 PPM	Females 1250 PPM	Females 2500 PPM	Females 5000 PPM
All Organs								
Malignant and Benign Tumors								
TUMOR RATES	#	#	#	#	#	#	#	#
OVERALL (a)	50/50 (100%)	50/50 (100%)	48/50 (96%)	46/50 (92%)	43/50 (86%)	46/50 (92%)	46/50 (92%)	29/50 (58%)
POLY-3 RATE (b)	50/50.00	50/50.00	48/49.37	46/49.15	43/48.85	46/50.00	46/50.00	29/49.05
POLY-3 PERCENT (g)	100.0%	100.0%	97.2%	93.6%	88.0%	92.0%	92.0%	59.1%
TERMINAL (d)	31/31 (100%)	38/38 (100%)	37/38 (97%)	38/40 (95%)	34/39 (87%)	33/37 (89%)	35/39 (90%)	24/41 (59%)
FIRST INCIDENCE	378	490	621	496	380	387	387	532
STATISTICAL TESTS								
LIFE TABLE	P=0.006N**	(e)	P=0.045N*	P=0.009N**	P<0.001N**	P=0.250	P=0.362	P=0.003N**
POLY 3	P=0.011N*	(e)	P=0.361N	P=0.086N	P<0.001N**	P=0.371	P=0.371	P<0.001N**
POLY 1.5	P=0.009N**	(e)	P=0.299N	P=0.071N	P<0.001N**	P=0.324	P=0.324	P<0.001N**
POLY 6	P=0.021N*	(e)	P=0.442N	P=0.123N	P<0.001N**	P=0.426	P=0.426	P<0.001N**
LOGISTIC REGRESSION	P=0.005N**	(e)	P=0.126N	P=0.049N*	P<0.001N**	P=0.265	P=0.274	P<0.001N**
COCH-ARM / FISHERS	P=0.009N**	(e)	P=0.247N	P=0.059N	P<0.001N**	P=0.262	P=0.262	P=0.002N**

(a) Number of tumor-bearing animals / number of animals examined at site.
(b) Number of tumor-bearing animals / Poly-3 number
(d) Observed incidence at terminal kill.
(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. The life table analysis regards tumors in animals dying prior to terminal kill as being (directly or indirectly) the cause of death.
Logistic regression is an alternative method for analyzing the incidence of non-fatal tumors. The Cochran-Armitage and Fishers exact tests compare directly the overall incidence rates
For all tests a negative trend is indicated by N
(e) Value of Statistic cannot be computed.
(g) Poly-3 adjusted lifetime tumor incidence.
(I) Interim sacrifice
(T) Terminal sacrifice
Tumor rates based on number of animals necropsied.
* To the right of any statistical result, indicates significance at (P<=0.05).
** To the right of any statistical result, indicates significance at (P<=0.01).

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