

Experiment Number: 20209 - 04

**P05: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (SYSTEMIC LESIONS
ABRIDGED) (a)**

Date Report Requested: 08/14/2014

Test Type: CHRONIC

Pentabromodiphenyl oxide (technical) (DE 71)

Time Report Requested: 07:47:55

Route: GAVAGE

CAS Number: 32534-81-9

First Dose M/F: 02/25/08 / 02/25/08

Species/Strain: MICE/B6C3F1

Lab: SRI

F1_M3

NTP Study Number: C20209
Lock Date: 08/31/2011
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.2.1_001
PWG Approval Date: NONE

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Species/Strain: MICE/B6C3F1

Lab: SRI

B6C3F1 MICE MALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
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Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Dosing Accident	1			2
Moribund Sacrifice	15	7	14	36
Natural Death	5	10	5	12
Survivors				
Terminal Sacrifice	29	33	31	
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(50)
Gallbladder	(43)	(42)	(41)	(31)
Intestine Large, Cecum	(46)	(43)	(45)	(45)
Intestine Large, Colon	(48)	(44)	(46)	(46)
Intestine Large, Rectum	(48)	(46)	(46)	(46)
Intestine Small, Duodenum	(46)	(43)	(47)	(44)
Intestine Small, Ileum	(45)	(41)	(44)	(43)
Intestine Small, Jejunum	(46)	(42)	(44)	(46)
Adenoma				1 (2%)
Carcinoma				1 (2%)
Liver	(50)	(50)	(50)	(50)
Hepatoblastoma	1 (2%)	1 (2%)	12 (24%)	5 (10%)
Hepatoblastoma, Multiple			4 (8%)	
Hepatocellular Adenoma	13 (26%)	12 (24%)	4 (8%)	7 (14%)
Hepatocellular Adenoma, Multiple	10 (20%)	23 (46%)	45 (90%)	33 (66%)
Hepatocellular Carcinoma	14 (28%)	13 (26%)	13 (26%)	10 (20%)
Hepatocellular Carcinoma, Multiple	4 (8%)	2 (4%)	17 (34%)	35 (70%)
Hepatocholangiocarcinoma		1 (2%)		
Mesentery	(12)	(3)	(9)	(5)
Hepatoblastoma, Metastatic, Liver			2 (22%)	
Hepatocellular Carcinoma, Metastatic, Liver	1 (8%)		1 (11%)	
Pancreas	(50)	(50)	(50)	(50)
Salivary Glands	(50)	(50)	(50)	(50)

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

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Species/Strain: MICE/B6C3F1

Lab: SRI

B6C3F1 MICE MALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
Carcinoma		1 (2%)		
Stomach, Forestomach	(50)	(50)	(50)	(50)
Squamous Cell Papilloma	2 (4%)	1 (2%)	2 (4%)	3 (6%)
Stomach, Glandular	(50)	(48)	(48)	(50)
Tongue	(0)	(0)	(0)	(1)
Tooth	(2)	(1)	(0)	(1)

CARDIOVASCULAR SYSTEM

Blood Vessel	(50)	(49)	(50)	(50)
Heart	(50)	(50)	(50)	(50)
Hepatocholangiocarcinoma, Metastatic, Liver		1 (2%)		

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(49)	(48)
Hepatocellular Carcinoma, Metastatic, Liver	1 (2%)			
Capsule, Adenoma		1 (2%)	1 (2%)	
Adrenal Medulla	(50)	(50)	(50)	(48)
Pheochromocytoma Benign	1 (2%)			
Islets, Pancreatic	(50)	(50)	(50)	(50)
Adenoma	1 (2%)			
Parathyroid Gland	(48)	(43)	(49)	(44)
Adenoma		1 (2%)		
Pituitary Gland	(47)	(43)	(43)	(44)
Pars Distalis, Adenoma		1 (2%)		
Thyroid Gland	(50)	(49)	(50)	(49)
Follicular Cell, Adenoma	1 (2%)	1 (2%)	2 (4%)	

GENERAL BODY SYSTEM

Tissue NOS	(2)	(1)	(0)	(1)
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Lab: SRI

B6C3F1 MICE MALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
GENITAL SYSTEM				
Coagulating Gland	(1)	(0)	(1)	(0)
Hepatoblastoma, Metastatic, Liver			1 (100%)	
Epididymis	(50)	(50)	(50)	(50)
Granular Cell Tumor Benign			1 (2%)	
Hepatoblastoma, Metastatic, Liver			1 (2%)	
Penis	(1)	(0)	(1)	(0)
Preputial Gland	(50)	(50)	(50)	(50)
Prostate	(50)	(50)	(50)	(50)
Seminal Vesicle	(50)	(50)	(49)	(49)
Testes	(50)	(50)	(50)	(49)
Interstitial Cell, Adenoma	1 (2%)		1 (2%)	
Rete Testes, Adenoma	1 (2%)			
HEMATOPOIETIC SYSTEM				
Bone Marrow	(50)	(50)	(50)	(50)
Hemangiosarcoma		1 (2%)		
Cranium, Carcinoma, Metastatic, Zymbal'S Gland	1 (2%)			
Lymph Node	(5)	(4)	(4)	(1)
Fat, Hemangiosarcoma		1 (25%)		
Mediastinal, Hepatocholangiocarcinoma, Metastatic, Liver		1 (25%)		
Thoracic, Hepatocholangiocarcinoma, Metastatic, Liver		1 (25%)		
Lymph Node, Mandibular	(50)	(49)	(49)	(46)
Lymph Node, Mesenteric	(49)	(47)	(46)	(47)
Hepatocellular Carcinoma, Metastatic, Liver	1 (2%)		1 (2%)	
Spleen	(50)	(47)	(47)	(47)
Hemangiosarcoma	1 (2%)	1 (2%)		
Thymus	(40)	(41)	(40)	(39)

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B6C3F1 MICE MALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
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INTEGUMENTARY SYSTEM

Mammary Gland	(2)	(2)	(1)	(4)
Skin	(50)	(50)	(50)	(50)
Lipoma	1 (2%)			
Schwannoma Malignant			1 (2%)	
Lip, Mast Cell Tumor Benign			1 (2%)	
Subcutaneous Tissue, Lipoma	1 (2%)			

MUSCULOSKELETAL SYSTEM

Bone	(49)	(50)	(50)	(49)
Skeletal Muscle	(2)	(2)	(0)	(0)
Hepatocolangiocarcinoma, Metastatic, Liver		1 (50%)		

NERVOUS SYSTEM

Brain	(50)	(50)	(50)	(50)
Peripheral Nerve	(2)	(1)	(1)	(0)
Spinal Cord	(1)	(1)	(1)	(0)

RESPIRATORY SYSTEM

Lung	(50)	(50)	(50)	(50)
Alveolar/Bronchiolar Adenoma	5 (10%)	4 (8%)	3 (6%)	1 (2%)
Alveolar/Bronchiolar Adenoma, Multiple		2 (4%)		
Alveolar/Bronchiolar Carcinoma	4 (8%)	3 (6%)	1 (2%)	
Alveolar/Bronchiolar Carcinoma, Multiple	1 (2%)	3 (6%)		
Carcinoma, Metastatic, Zymbal'S Gland	1 (2%)			
Hepatoblastoma, Metastatic, Liver			2 (4%)	
Hepatocellular Carcinoma, Metastatic, Liver	6 (12%)	2 (4%)	4 (8%)	4 (8%)
Hepatocolangiocarcinoma, Metastatic, Liver		1 (2%)		
Nose	(50)	(48)	(50)	(50)
Pleura	(0)	(1)	(0)	(0)

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Hepatocholangiocarcinoma, Metastatic, Liver		1 (100%)		
Trachea	(47)	(48)	(49)	(47)

SPECIAL SENSES SYSTEM

Eye	(49)	(47)	(47)	(46)
Harderian Gland	(50)	(49)	(50)	(50)
Adenoma	5 (10%)	6 (12%)	3 (6%)	
Carcinoma	1 (2%)			
Zymbal's Gland	(1)	(0)	(0)	(0)
Carcinoma	1 (100%)			

URINARY SYSTEM

Kidney	(50)	(50)	(49)	(50)
Hepatocholangiocarcinoma, Metastatic, Liver		1 (2%)		
Renal Tubule, Adenoma		1 (2%)		
Renal Tubule, Carcinoma		1 (2%)	1 (2%)	
Urethra	(0)	(4)	(3)	(0)
Urinary Bladder	(50)	(49)	(48)	(48)
Hepatoblastoma, Metastatic, Liver			1 (2%)	

SYSTEMIC LESIONS

Multiple Organ	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma	1 (2%)	1 (2%)		
Lymphoma Malignant	5 (10%)	7 (14%)	1 (2%)	

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

* Number of animals with any tissue examined microscopically

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B6C3F1 MICE MALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
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Tumor Summary for Males

Total Animals with Primary Neoplasms (b)	40	46	49	48
Total Primary Neoplasms	75	89	113	96
Total Animals with Benign Neoplasms	30	39	49	41
Total Benign Neoplasms	42	53	63	45
Total Animals with Malignant Neoplasms	27	25	37	45
Total Malignant Neoplasms	33	36	50	51
Total Animals with Metastatic Neoplasms	7	3	7	4
Total Metastatic Neoplasms	11	9	13	4
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain- Benign or Malignant				
Total Uncertain Neoplasms				

*** END OF MALE ***

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

b - Primary tumors: all tumors except metastatic tumors

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B6C3F1 MICE FEMALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
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Disposition Summary

Animals Initially In Study	50	50	50	50
Early Deaths				
Accidentally Killed	1			
Dosing Accident			1	
Moribund Sacrifice	10	10	9	46
Natural Death	6	5	3	4
Survivors				
Terminal Sacrifice	33	35	37	
Animals Examined Microscopically	50	50	50	50

ALIMENTARY SYSTEM

Esophagus	(50)	(50)	(50)	(49)
Gallbladder	(44)	(44)	(47)	(45)
Intestine Large, Cecum	(46)	(45)	(47)	(47)
Intestine Large, Colon	(47)	(45)	(47)	(47)
Intestine Large, Rectum	(47)	(46)	(47)	(47)
Rhabdomyosarcoma, Metastatic, Skeletal Muscle			1 (2%)	
Intestine Small, Duodenum	(46)	(45)	(47)	(47)
Intestine Small, Ileum	(46)	(45)	(47)	(47)
Intestine Small, Jejunum	(46)	(45)	(47)	(47)
Carcinoma			1 (2%)	
Liver	(50)	(49)	(50)	(49)
Hemangioma		1 (2%)		
Hemangiosarcoma			1 (2%)	
Hepatocellular Adenoma	5 (10%)	5 (10%)	11 (22%)	4 (8%)
Hepatocellular Adenoma, Multiple		2 (4%)	21 (42%)	42 (86%)
Hepatocellular Carcinoma	4 (8%)	1 (2%)	5 (10%)	19 (39%)
Hepatocellular Carcinoma, Multiple		1 (2%)	1 (2%)	8 (16%)
Serosa, Fibrosarcoma, Metastatic, Skin	1 (2%)			
Mesentery	(11)	(26)	(12)	(5)
Fibrosarcoma, Metastatic, Skin	1 (9%)			
Oral Mucosa	(0)	(1)	(0)	(0)

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B6C3F1 MICE FEMALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
Pancreas	(50)	(48)	(50)	(50)
Fibrosarcoma, Metastatic, Skin	1 (2%)			
Salivary Glands	(50)	(50)	(50)	(48)
Fibrosarcoma, Metastatic, Skin	1 (2%)			
Stomach, Forestomach	(50)	(50)	(50)	(49)
Hepatocellular Carcinoma, Metastatic, Liver				1 (2%)
Squamous Cell Papilloma		3 (6%)	1 (2%)	2 (4%)
Stomach, Glandular	(49)	(47)	(47)	(48)

CARDIOVASCULAR SYSTEM

Blood Vessel	(47)	(49)	(50)	(49)
Heart	(50)	(50)	(50)	(49)

ENDOCRINE SYSTEM

Adrenal Cortex	(50)	(50)	(49)	(47)
Adenoma			1 (2%)	
Fibrosarcoma, Metastatic, Skin	1 (2%)			
Capsule, Adenoma			1 (2%)	
Adrenal Medulla	(49)	(50)	(48)	(48)
Pheochromocytoma Benign			1 (2%)	
Pheochromocytoma Malignant				1 (2%)
Islets, Pancreatic	(50)	(48)	(50)	(50)
Adenoma	1 (2%)		2 (4%)	
Hepatocellular Carcinoma, Metastatic, Liver	1 (2%)			
Parathyroid Gland	(44)	(48)	(47)	(47)
Pituitary Gland	(50)	(47)	(46)	(45)
Pars Distalis, Adenoma	5 (10%)	5 (11%)	8 (17%)	
Pars Intermedia, Adenoma		2 (4%)		
Thyroid Gland	(50)	(49)	(48)	(47)
C-cell, Adenoma	1 (2%)			
Follicular Cell, Adenoma	1 (2%)			
Follicular Cell, Carcinoma		1 (2%)		

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B6C3F1 MICE FEMALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
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GENERAL BODY SYSTEM

Peritoneum	(0)	(0)	(0)	(1)
Tissue NOS	(1)	(2)	(0)	(1)

GENITAL SYSTEM

Clitoral Gland	(49)	(49)	(50)	(50)
Ovary	(48)	(49)	(50)	(48)
Cystadenoma	2 (4%)	1 (2%)	3 (6%)	
Granulosa Cell Tumor Benign	1 (2%)			
Granulosa Cell Tumor Malignant				1 (2%)
Uterus	(50)	(50)	(50)	(49)
Adenoma	1 (2%)			
Hemangioma	1 (2%)			
Polyp Stromal		2 (4%)	3 (6%)	
Bilateral, Polyp Stromal			1 (2%)	
Vagina	(0)	(1)	(0)	(0)
Squamous Cell Carcinoma		1 (100%)		

HEMATOPOIETIC SYSTEM

Bone Marrow	(49)	(50)	(50)	(49)
Rhabdomyosarcoma, Metastatic, Skeletal Muscle	1 (2%)			
Lymph Node	(9)	(17)	(12)	(4)
Lymph Node, Mandibular	(48)	(50)	(50)	(45)
Lymph Node, Mesenteric	(48)	(45)	(49)	(48)
Spleen	(50)	(47)	(48)	(48)
Capsule, Fibrosarcoma, Metastatic, Skin	1 (2%)			
Thymus	(48)	(45)	(46)	(46)

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B6C3F1 MICE FEMALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
INTEGUMENTARY SYSTEM				
Mammary Gland	(50)	(50)	(50)	(50)
Carcinoma	1 (2%)			
Rhabdomyosarcoma, Metastatic, Skeletal Muscle			1 (2%)	
Skin	(50)	(50)	(50)	(50)
Mast Cell Tumor Benign				1 (2%)
Lip, Mast Cell Tumor Benign				1 (2%)
Subcutaneous Tissue, Fibrosarcoma	1 (2%)	1 (2%)		
Subcutaneous Tissue, Fibrous Histiocytoma, Multiple		1 (2%)		
Subcutaneous Tissue, Rhabdomyosarcoma, Metastatic, Skeletal Muscle			1 (2%)	
MUSCULOSKELETAL SYSTEM				
Bone	(49)	(50)	(50)	(50)
Maxilla, Rhabdomyosarcoma, Metastatic, Skeletal Muscle	1 (2%)			
Skeletal Muscle	(2)	(3)	(4)	(1)
Rhabdomyosarcoma	1 (50%)	2 (67%)	2 (50%)	
NERVOUS SYSTEM				
Brain	(50)	(50)	(50)	(49)
Peripheral Nerve	(1)	(1)	(1)	(1)
Spinal Cord	(1)	(1)	(3)	(1)
RESPIRATORY SYSTEM				
Lung	(50)	(50)	(50)	(50)
Alveolar/Bronchiolar Adenoma	1 (2%)	5 (10%)	3 (6%)	
Alveolar/Bronchiolar Carcinoma		1 (2%)	1 (2%)	
Fibrosarcoma, Metastatic, Skin	1 (2%)			

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B6C3F1 MICE FEMALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
Granulosa Cell Tumor Malignant, Metastatic, Ovary				1 (2%)
Hepatocellular Carcinoma, Metastatic, Liver	2 (4%)	1 (2%)		1 (2%)
Mediastinum, Fibrosarcoma, Metastatic, Skin	1 (2%)			
Nose	(50)	(50)	(50)	(48)
Pleura	(0)	(0)	(1)	(0)
Trachea	(50)	(50)	(50)	(47)

SPECIAL SENSES SYSTEM

Eye	(47)	(45)	(47)	(48)
Harderian Gland	(50)	(49)	(50)	(49)
Adenoma	9 (18%)	1 (2%)	4 (8%)	2 (4%)
Carcinoma	1 (2%)	1 (2%)	1 (2%)	

URINARY SYSTEM

Kidney	(50)	(50)	(49)	(48)
Urinary Bladder	(49)	(50)	(49)	(48)

SYSTEMIC LESIONS

Multiple Organ	*(50)	*(50)	*(50)	*(50)
Histiocytic Sarcoma	1 (2%)	3 (6%)	1 (2%)	1 (2%)
Lymphoma Malignant	7 (14%)	6 (12%)	6 (12%)	1 (2%)

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* Number of animals with any tissue examined microscopically

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Lab: SRI

B6C3F1 MICE FEMALE	0 MG/KG	3 MG/KG	30 MG/KG	100 MG/KG
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Tumor Summary for Females

Total Animals with Primary Neoplasms (b)	34	30	41	49
Total Primary Neoplasms	44	46	79	83
Total Animals with Benign Neoplasms	24	20	38	46
Total Benign Neoplasms	28	27	60	52
Total Animals with Malignant Neoplasms	16	15	15	31
Total Malignant Neoplasms	16	19	19	31
Total Animals with Metastatic Neoplasms	4	1	1	3
Total Metastatic Neoplasms	13	1	3	3
Total Animals with Malignant Neoplasms Uncertain Primary Site				
Total Animals with Neoplasms Uncertain- Benign or Malignant				
Total Uncertain Neoplasms				

*** END OF REPORT ***

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

b - Primary tumors: all tumors except metastatic tumors