

Experiment Number: 89029-03
Test Type: 150-DAY
Route: MAGNETIC FIELDS
Species/Strain: Mouse/PIM

P02: INCIDENCE RATES OF NEOPLASMS BY ANATOMIC SITE (a)
Test Compound: Magnetic fields (EMF)
CAS Number: MAGNETIC

Date Report Requested: 10/20/2014
Time Report Requested: 19:45:35
First Dose M/F: NA / NA
Lab: IIT

C Number:	C89029B
Lock Date:	01/05/1995
Cage Range:	All
Date Range:	All
Reasons For Removal:	All
Removal Date Range:	All
Treatment Groups:	All
Study Gender:	Both
PWG Approval Date	NONE

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PIM Mouse MALE	10 GAUSS	10 GAUSSINTER	2 GAUSS	0.02 GAUSS	SHAM CONTROL	10 GAUSS
Disposition Summary						
Animals Initially In Study	19	19	19	19	19	11
Early Deaths						
Moribund Sacrifice	3	10	3	4	10	3
Natural Death		1	1	2		
Survivors						
Moribund Sacrifice						1
Terminal Sacrifice	16	8	15	13	9	7
Animals Examined Microscopically	19	19	19	19	19	11
ALIMENTARY SYSTEM						
Liver	(19)	(19)	(19)	(19)	(19)	(11)
Hepatocellular Carcinoma					1 (5%)	
Lymphoma Malignant	2 (11%)	9 (47%)	5 (26%)	5 (26%)	8 (42%)	4 (36%)
CARDIOVASCULAR SYSTEM						
None						
ENDOCRINE SYSTEM						
None						
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
None						
HEMATOPOIETIC SYSTEM						
Lymph Node, Mandibular	(19)	(19)	(19)	(18)	(19)	(11)
Lymphoma Malignant	2 (11%)	7 (37%)	5 (26%)	6 (33%)	8 (42%)	3 (27%)
Lymph Node, Mesenteric	(13)	(16)	(15)	(13)	(18)	(11)

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

b - Primary tumors: all tumors except metastatic tumors

* Number of animals with any tissue examined microscopically

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Lab: IIT

PIM Mouse MALE	10 GAUSS	10 GAUSSINTER	2 GAUSS	0.02 GAUSS	SHAM CONTROL	10 GAUSS
Lymphoma Malignant	3 (23%)	5 (31%)	5 (33%)	4 (31%)	8 (44%)	3 (27%)
Spleen	(19)	(19)	(19)	(19)	(19)	(11)
Lymphoma Malignant	2 (11%)	9 (47%)	5 (26%)	5 (26%)	8 (42%)	4 (36%)
Thymus	(19)	(19)	(18)	(18)	(19)	(11)
Lymphoma Malignant	3 (16%)	11 (58%)	7 (39%)	8 (44%)	10 (53%)	4 (36%)
INTEGUMENTARY SYSTEM						
None						
MUSCULOSKELETAL SYSTEM						
None						
NERVOUS SYSTEM						
None						
RESPIRATORY SYSTEM						
Lung	(19)	(19)	(19)	(19)	(19)	(11)
Alveolar/Bronchiolar Adenoma	1 (5%)					
Carcinoma, Metastatic, Liver					1 (5%)	
Lymphoma Malignant	3 (16%)	11 (58%)	4 (21%)	7 (37%)	9 (47%)	4 (36%)
SPECIAL SENSES SYSTEM						
None						
URINARY SYSTEM						
Kidney	(19)	(19)	(19)	(19)	(19)	(11)
Lymphoma Malignant	2 (11%)	11 (58%)	5 (26%)	6 (32%)	9 (47%)	4 (36%)
SYSTEMIC LESIONS						
Multiple Organ	*(19)	*(19)	*(19)	*(19)	*(19)	*(11)
Lymphoma Malignant	3 (16%)	11 (58%)	7 (37%)	8 (42%)	10 (53%)	4 (36%)

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

b - Primary tumors: all tumors except metastatic tumors

* Number of animals with any tissue examined microscopically

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PIM Mouse MALE	10 GAUSS	2 GAUSS	0.02 GAUSS	SHAM	CONTROL
Disposition Summary					
Animals Initially In Study	11	11	11		11
Early Deaths					
Moribund Sacrifice	4	6	5		1
Natural Death			1		1
Survivors					
Moribund Sacrifice	1				
Terminal Sacrifice	6	5	5		9
Animals Examined Microscopically	11	11	11		10
ALIMENTARY SYSTEM					
Liver	(11)	(11)	(11)		(10)
Hepatocellular Carcinoma					
Lymphoma Malignant	5 (45%)	6 (55%)	5 (45%)		3 (30%)
CARDIOVASCULAR SYSTEM					
None					
ENDOCRINE SYSTEM					
None					
GENERAL BODY SYSTEM					
None					
GENITAL SYSTEM					
None					
HEMATOPOIETIC SYSTEM					
Lymph Node, Mandibular	(10)	(11)	(11)		(10)
Lymphoma Malignant	4 (40%)	6 (55%)	5 (45%)		4 (40%)
Lymph Node, Mesenteric	(10)	(10)	(9)		(9)

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

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PIM Mouse MALE	10 GAUSS	2 GAUSS	0.02 GAUSS	SHAM CONTROL
Lymphoma Malignant	5 (50%)	6 (60%)	5 (56%)	3 (33%)
Spleen	(11)	(11)	(11)	(10)
Lymphoma Malignant	6 (55%)	6 (55%)	5 (45%)	3 (30%)
Thymus	(11)	(11)	(11)	(10)
Lymphoma Malignant	6 (55%)	6 (55%)	6 (55%)	3 (30%)
INTEGUMENTARY SYSTEM				
None				
MUSCULOSKELETAL SYSTEM				
None				
NERVOUS SYSTEM				
None				
RESPIRATORY SYSTEM				
Lung	(11)	(11)	(11)	(10)
Alveolar/Bronchiolar Adenoma				
Carcinoma, Metastatic, Liver				
Lymphoma Malignant	6 (55%)	6 (55%)	5 (45%)	3 (30%)
SPECIAL SENSES SYSTEM				
None				
URINARY SYSTEM				
Kidney	(11)	(11)	(11)	(10)
Lymphoma Malignant	5 (45%)	6 (55%)	5 (45%)	3 (30%)
SYSTEMIC LESIONS				
Multiple Organ	*(11)	*(11)	*(11)	*(10)
Lymphoma Malignant	6 (55%)	6 (55%)	6 (55%)	4 (40%)

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PIM Mouse MALE	10 GAUSS	10 GAUSSINTER	2 GAUSS	0.02 GAUSS	SHAM CONTROL	10 GAUSS
Tumor Summary for MALE						
Total Animals with Primary Neoplasms (b)	4	11	7	8	11	4
Total Primary Neoplasms	4	11	7	8	11	4
Total Animals with Benign Neoplasms	1					
Total Benign Neoplasms	1					
Total Animals with Malignant Neoplasms	3	11	7	8	11	4
Total Malignant Neoplasms	3	11	7	8	11	4
Total Animals with Metastatic Neoplasms					1	
Total Metastatic Neoplasms					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

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* Number of animals with any tissue examined microscopically

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PIM Mouse MALE	10 GAUSS	2 GAUSS	0.02 GAUSS	SHAM	CONTROL
Tumor Summary for MALE					
Total Animals with Primary Neoplasms (b)	6	6	6		4
Total Primary Neoplasms	6	6	6		4
Total Animals with Benign Neoplasms					
Total Benign Neoplasms					
Total Animals with Malignant Neoplasms	6	6	6		4
Total Malignant Neoplasms	6	6	6		4
Total Animals with Metastatic Neoplasms					
Total Metastatic Neoplasms					
Total Animals with Malignant Neoplasms Uncertain Primary Site					
Total Animals with Neoplasms Uncertain - Benign or Malignant					
Total Uncertain Neoplasms					

END OF MALE DATA

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

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 First Dose M/F: NA / NA
 Lab: IIT

PIM Mouse FEMALE	10 GAUSS	10 GAUSSINTER	2 GAUSS	0.02 GAUSS	SHAM CONTROL	10 GAUSS
Disposition Summary						
Animals Initially In Study	19	19	19	19	19	11
Early Deaths						
Moribund Sacrifice	6	5	4	6	2	1
Natural Death	4	3	2	2	5	2
Survivors						
Terminal Sacrifice	9	11	13	11	12	8
Other						
Animals Examined Microscopically	19	19	19	19	19	11
ALIMENTARY SYSTEM						
Liver	(19)	(19)	(19)	(19)	(19)	(11)
Hepatocellular Adenoma			1 (5%)			
Histiocytic Sarcoma						1 (9%)
Lymphoma Malignant	10 (53%)	8 (42%)	7 (37%)	5 (26%)	7 (37%)	2 (18%)
CARDIOVASCULAR SYSTEM						
None						
ENDOCRINE SYSTEM						
Thyroid Gland	(0)	(0)	(0)	(1)	(0)	(0)
GENERAL BODY SYSTEM						
None						
GENITAL SYSTEM						
None						
HEMATOPOIETIC SYSTEM						
Lymph Node, Mandibular	(19)	(19)	(19)	(18)	(19)	(10)
Lymphoma Malignant	10 (53%)	5 (26%)	7 (37%)	5 (28%)	7 (37%)	2 (20%)

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Lab: IIT

PIM Mouse FEMALE	10 GAUSS	10 GAUSSINTER	2 GAUSS	0.02 GAUSS	SHAM CONTROL	10 GAUSS
Lymph Node, Mesenteric	(19)	(18)	(17)	(17)	(17)	(9)
Lymphoma Malignant	10 (53%)	6 (33%)	6 (35%)	5 (29%)	5 (29%)	2 (22%)
Spleen	(19)	(19)	(19)	(19)	(18)	(11)
Histiocytic Sarcoma						1 (9%)
Lymphoma Malignant	10 (53%)	6 (32%)	8 (42%)	6 (32%)	8 (44%)	2 (18%)
Thymus	(18)	(19)	(19)	(17)	(18)	(11)
Histiocytic Sarcoma						1 (9%)
Lymphoma Malignant	11 (61%)	9 (47%)	8 (42%)	8 (47%)	7 (39%)	2 (18%)
INTEGUMENTARY SYSTEM						
None						
MUSCULOSKELETAL SYSTEM						
None						
NERVOUS SYSTEM						
None						
RESPIRATORY SYSTEM						
Lung	(19)	(19)	(19)	(19)	(18)	(10)
Alveolar/Bronchiolar Adenoma					1 (6%)	1 (10%)
Lymphoma Malignant	10 (53%)	6 (32%)	6 (32%)	7 (37%)	8 (44%)	2 (20%)
SPECIAL SENSES SYSTEM						
None						
URINARY SYSTEM						
Kidney	(19)	(19)	(19)	(19)	(19)	(10)
Lymphoma Malignant	10 (53%)	6 (32%)	8 (42%)	4 (21%)	6 (32%)	2 (20%)
SYSTEMIC LESIONS						
Multiple Organ	*(19)	*(19)	*(19)	*(19)	*(19)	*(11)

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

b - Primary tumors: all tumors except metastatic tumors

* Number of animals with any tissue examined microscopically

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First Dose M/F: NA / NA

Lab: IIT

PIM Mouse FEMALE	10 GAUSS	10 GAUSSINTER	2 GAUSS	0.02 GAUSS	SHAM CONTROL	10 GAUSS
Histiocytic Sarcoma						1 (9%)
Lymphoma Malignant	11 (58%)	9 (47%)	8 (42%)	8 (42%)	10 (53%)	2 (18%)

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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PIM Mouse FEMALE	10 GAUSS	2 GAUSS	0.02 GAUSS	SHAM	CONTROL
Disposition Summary					
Animals Initially In Study	11	11	11		11
Early Deaths					
Moribund Sacrifice	4		3		1
Natural Death		2	1		2
Survivors					
Terminal Sacrifice	7	8	7		8
Other		1			
Animals Examined Microscopically	11	10	11		11
ALIMENTARY SYSTEM					
Liver	(11)	(10)	(11)		(11)
Hepatocellular Adenoma					
Histiocytic Sarcoma					
Lymphoma Malignant	5 (45%)	4 (40%)	5 (45%)		3 (27%)
CARDIOVASCULAR SYSTEM					
None					
ENDOCRINE SYSTEM					
Thyroid Gland	(0)	(0)	(0)		(0)
GENERAL BODY SYSTEM					
None					
GENITAL SYSTEM					
None					
HEMATOPOIETIC SYSTEM					
Lymph Node, Mandibular	(11)	(10)	(11)		(11)
Lymphoma Malignant	5 (45%)	5 (50%)	5 (45%)		2 (18%)

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

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Lab: IIT

PIM Mouse FEMALE	10 GAUSS	2 GAUSS	0.02 GAUSS	SHAM	CONTROL
Lymph Node, Mesenteric	(10)	(9)	(9)	(9)	
Lymphoma Malignant	4 (40%)	3 (33%)	4 (44%)	2 (22%)	
Spleen	(11)	(10)	(11)	(11)	
Histiocytic Sarcoma					
Lymphoma Malignant	5 (45%)	4 (40%)	5 (45%)	2 (18%)	
Thymus	(11)	(10)	(11)	(11)	
Histiocytic Sarcoma					
Lymphoma Malignant	7 (64%)	4 (40%)	5 (45%)	4 (36%)	
INTEGUMENTARY SYSTEM					
None					
MUSCULOSKELETAL SYSTEM					
None					
NERVOUS SYSTEM					
None					
RESPIRATORY SYSTEM					
Lung	(11)	(10)	(11)	(11)	
Alveolar/Bronchiolar Adenoma					
Lymphoma Malignant	5 (45%)	4 (40%)	5 (45%)	3 (27%)	
SPECIAL SENSES SYSTEM					
None					
URINARY SYSTEM					
Kidney	(11)	(10)	(11)	(11)	
Lymphoma Malignant	5 (45%)	3 (30%)	5 (45%)	2 (18%)	
SYSTEMIC LESIONS					
Multiple Organ	*(11)	*(10)	*(11)	*(11)	

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

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PIM Mouse FEMALE	10 GAUSS	2 GAUSS	0.02 GAUSS	SHAM	CONTROL
Histiocytic Sarcoma					
Lymphoma Malignant	7 (64%)	5 (50%)	5 (45%)	4 (36%)	

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

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PIM Mouse FEMALE	10 GAUSS	10 GAUSSINTER	2 GAUSS	0.02 GAUSS	SHAM CONTROL	10 GAUSS
Tumor Summary for FEMALE						
Total Animals with Primary Neoplasms (b)	11	9	9	8	11	4
Total Primary Neoplasms	11	9	9	8	11	4
Total Animals with Benign Neoplasms			1		1	1
Total Benign Neoplasms			1		1	1
Total Animals with Malignant Neoplasms	11	9	8	8	10	3
Total Malignant Neoplasms	11	9	8	8	10	3
Total Animals with Metastatic Neoplasms						
Total Metastatic Neoplasms						
Total Animals with Malignant Neoplasms Uncertain Primary Site						
Total Animals with Neoplasms Uncertain - Benign or Malignant						
Total Uncertain Neoplasms						

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PIM Mouse FEMALE	10 GAUSS	2 GAUSS	0.02 GAUSS	SHAM	CONTROL
Tumor Summary for FEMALE					
Total Animals with Primary Neoplasms (b)	7	5	5	4	4
Total Primary Neoplasms	7	5	5	4	4
Total Animals with Benign Neoplasms					
Total Benign Neoplasms					
Total Animals with Malignant Neoplasms	7	5	5	4	4
Total Malignant Neoplasms	7	5	5	4	4
Total Animals with Metastatic Neoplasms					
Total Metastatic Neoplasms					
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

* Number of animals with any tissue examined microscopically