

Experiment Number: 07062 - 02
Test Type: 30-day
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
1020 Long Multiwalled Carbon Nanotube
CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
Time Report Requested: 07:42:27
First Dose M/F: 05/30/11 / 05/30/11
Lab: BNW

F1_M3

NTP Study Number: C07062
Lock Date: 03/30/2012
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.1.1_001
PWG Approval Date: NONE

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P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control		3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	4	5	3	5	3	5	3	5	3	5	3	5	3	5	3	
		0	4	1	1	6	2	0	6	4	0	0	0	6	1	2	1	1	0	4	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	
		males (cont...)																																		

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx																																					
Lung																																					
Nose																																					
Trachea																																					

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ																																					

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue
 M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

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 Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		0	4	1	0	1	2	2	2	1	4
Control	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		2	2	2	2	3	3	3	3	3	3
		6	7	8	9	0	1	2	3	4	5
* TOTALS											

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial M M I 6

Lymph Node, Mediastinal + + + 9

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
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 Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		0	4	1	0	1	2	2	2	1	4
Control	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		2	2	2	2	3	3	3	3	3	3
		6	7	8	9	0	1	2	3	4	5
		* TOTALS									

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx		I	+		+					9
Lung		+	+		+					10
Nose		+	+		+					10
Trachea		+	+		+					10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ		+	+		+					10
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* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
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 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE MALE 0.1 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		3	4	3	3	3	7	7	7	3	4			
		0	4	1	0	1	2	2	2	1	4			
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0			
		0	0	0	0	0	0	0	0	0	0			
		2	2	2	2	2	2	2	2	2	2			
		2	2	2	2	3	3	3	3	3	3			
		6	7	8	9	0	1	2	3	4	5			

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node 1

Lymph Node, Bronchial + + + 9

Lymph Node, Mediastinal + M + 7

INTEGUMENTARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
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M .. Missing tissue
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B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
0.1 mg/m3		3	4	3	3	3	7	7	7	3	4			
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0			
		2	2	2	2	2	2	2	2	2	2			
		2	2	2	2	3	3	3	3	3	3			
		6	7	8	9	0	1	2	3	4	5			
* TOTALS														

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+	+					+	10
Lung			+	+					+	10
Nose			+	+					+	10
Trachea			+	+					+	10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+	+					+	10
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 X .. Lesion present
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B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
0.3 mg/m3		3	4	3	3	3	7	7	7	3	4			
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0			
		4	4	4	4	4	4	4	4	4	4			
		2	2	2	2	3	3	3	3	3	3			
		6	7	8	9	0	1	2	3	4	5			
* TOTALS														

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial M I + 7

Lymph Node, Mediastinal + + + 8

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
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Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.3 mg/m3		3	4	3	3	3	7	7	7	3	4				
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0				
		4	4	4	4	4	4	4	4	4	4				
		2	2	2	2	3	3	3	3	3	3				
		6	7	8	9	0	1	2	3	4	5				
* TOTALS															

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+		+				+						10
Lung			+		+				+						10
Nose			+		+				+						10
Trachea			+		+				+						10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+		+				+						10
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* .. Total animals with tissue examined microscopically; Total animals with tumor
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First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

B6C3F1 MICE MALE 1 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		3	4	3	3	3	7	7	7	3	4			
		0	4	1	0	1	2	2	2	1	4			
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0			
		0	0	0	0	0	0	0	0	0	0			
		6	6	6	6	6	6	6	6	6	6			
		2	2	2	2	3	3	3	3	3	3			
		6	7	8	9	0	1	2	3	4	5			
		* TOTALS												

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+		+				+	10
Lung			+		+				+	10
Nose			+		+				+	10
Trachea			+		+				M	8

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+		+				+	10
----------------	--	--	---	--	---	--	--	--	---	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
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M .. Missing tissue
A .. Autolysis precludes evaluation
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Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		males (cont...)
3 mg/m3		3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	4	5	3	5	3		
		0	4	1	1	6	2	0	6	4	0	0	0	6	1	2	1	1	0	0	4	6	1	6	1		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2		
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	

ALIMENTARY SYSTEM

Pharynx + + + + + + + +

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial + + | + + + +

Lymph Node, Mediastinal | + + + + + +

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
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First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST	Animals																							males (cont...)		
		Tumor Incidence																									
		Tumor Multiplicity																									
3 mg/m3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
		3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	4	5	3	5	3	3	3
		0	4	1	1	6	2	0	6	4	0	0	0	6	1	2	1	1	0	0	4	6	1	6	1	1	1
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx																											
Lung																											
Nose																											
Trachea																											

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ																											
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* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
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B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		0	4	1	0	1	2	2	2	1	4
3 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		8	8	8	8	8	8	8	8	8	8
		2	2	2	2	3	3	3	3	3	3
		6	7	8	9	0	1	2	3	4	5
* TOTALS											

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial + + + 9

Lymph Node, Mediastinal + + + 9

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
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B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 mg/m3		3	4	3	3	3	7	7	7	3	4				
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0				
		8	8	8	8	8	8	8	8	8	8				
		2	2	2	2	3	3	3	3	3	3				
		6	7	8	9	0	1	2	3	4	5				
* TOTALS															

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+	+					+	10
Lung			+	+					+	10
Nose			+	+					+	10
Trachea			+	+					+	10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+	+					+	10
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* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
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B6C3F1 MICE MALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0		
	10 mg/m3	3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	4	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3	
	0	4	1	1	6	2	0	6	4	0	0	0	6	1	2	1	1	0	0	4	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	
																													males (cont...)													

ALIMENTARY SYSTEM

Pharynx + + + + + + + +

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial + I M + + + +

Lymph Node, Mediastinal + + I + + + +

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

1020 Long Multiwalled Carbon Nanotube

CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013

Time Report Requested: 07:42:27

First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

B6C3F1 MICE MALE	DAY ON TEST																				males (cont...)					
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0				
10 mg/m3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	4	5	3	5	3		
	0	4	1	1	6	2	0	6	4	0	0	0	6	1	2	1	1	0	0	4	6	1	6	1		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx

+ +

+ + +

+ +

Lung

+ +

+ + +

+ +

Nose

+ +

+ + +

+ +

Trachea

+ +

+ + +

+ +

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ

+ +

+ + +

+ +

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE MALE 10 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		3	4	3	3	3	7	7	7	3	4			
		0	4	1	0	1	2	2	2	1	4			
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0			
		1	1	1	1	1	1	1	1	1	1			
		0	0	0	0	0	0	0	0	0	0			
		2	2	2	2	3	3	3	3	3	3			
		6	7	8	9	0	1	2	3	4	5			

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial + I + 7

Lymph Node, Mediastinal + + + 9

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

1020 Long Multiwalled Carbon Nanotube

CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013

Time Report Requested: 07:42:27

First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

B6C3F1 MICE MALE 10 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		3	4	3	3	3	7	7	7	3	4			
		0	4	1	0	1	2	2	2	1	4			
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0			
		1	1	1	1	1	1	1	1	1	1			
		0	0	0	0	0	0	0	0	0	0			
		2	2	2	2	3	3	3	3	3	3			
		6	7	8	9	0	1	2	3	4	5			

* TOTALS

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+	+				+	10
Lung			+	+				+	10
Nose			+	+				+	10
Trachea			+	+				+	10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+	+				+	10
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*** END OF MALE DATA ***

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	females (cont...)
		0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0		
		3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	4	5	3	5	3		
		1	5	2	2	7	3	1	7	5	1	1	1	7	2	3	2	2	1	1	5	7	2	7	2		
Control	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
		0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2		
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx	+	+												+	+	+									+	+
Lung	+	+												+	+	+									+	+
Nose	+	+												+	+	+									+	+
Trachea	+	+												+	+	+									+	+

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ	+	+												+	+	+									+	+
----------------	---	---	--	--	--	--	--	--	--	--	--	--	--	---	---	---	--	--	--	--	--	--	--	--	---	---

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE Control	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4	
		1	5	2	1	2	3	3	3	2	5	
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	1	
		2	2	2	2	3	3	3	3	3	3	
		6	7	8	9	0	1	2	3	4	5	
		* TOTALS										

ALIMENTARY SYSTEM

Liver											2
Pharynx											10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node											1
Lymph Node, Bronchial											9
Lymph Node, Mediastinal											7

INTEGUMENTARY SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		1	5	2	1	2	3	3	3	2	5
Control	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		1	1	1	1	1	1	1	1	1	1
		2	2	2	2	3	3	3	3	3	3
		6	7	8	9	0	1	2	3	4	5
		* TOTALS									

NONE

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx		+	+		+	10
Lung		+	+		+	10
Nose		+	+		+	10
Trachea		+	+		+	10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ		+	+		+	10
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* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

1020 Long Multiwalled Carbon Nanotube

CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013

Time Report Requested: 07:42:27

First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

B6C3F1 MICE FEMALE	0.1 mg/m3	DAY ON TEST																								females (cont...)
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	3	4	5	3	5	
ANIMAL ID		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
		0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5

ALIMENTARY SYSTEM

Pharynx

+ + + + + + + +

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node

+

Lymph Node, Bronchial

I M

I + +

M I

Lymph Node, Mediastinal

+ +

I + +

M +

INTEGUMENTARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	females (cont...)
		0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	
		3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	4	5	3	5	3	
0.1 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	females (cont...)
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	females (cont...)	

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+	+																								
Lung			+	+																								
Nose			+	+																								
Trachea			+	I																								

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+	+																								
----------------	--	--	---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		1	5	2	1	2	3	3	3	2	5
0.1 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	3	3	3	3	3	3	3	3	
		2	2	2	2	3	3	3	3	3	
		6	7	8	9	0	1	2	3	4	5
* TOTALS											

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node 1

Lymph Node, Bronchial | | + 3

Lymph Node, Mediastinal + + + 8

INTEGUMENTARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		1	5	2	1	2	3	3	3	2	5
0.1 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	3	3	3	3	3	3	3	3	3
		2	2	2	2	3	3	3	3	3	3
		6	7	8	9	0	1	2	3	4	5
* TOTALS											

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+	+				+	10
Lung			+	+				+	10
Nose			+	+				+	10
Trachea			+	+				+	9

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+	+				+	10
----------------	--	--	---	---	--	--	--	---	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
		0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	0	0				
		3	4	3	3	5	7	3	5	4	3	3	3	3	5	3	7	3	3	3	3	3	3	3	4	5	5	3	5	3	5	5	3	5	3	5	3	5	3	2	3	2		
0.3 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1	2	3	4	5	6	7	8	9	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
																															females (cont...)													

ALIMENTARY SYSTEM

Pharynx + + + + + + + +

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node +

Lymph Node, Bronchial M + + + + +

Lymph Node, Mediastinal + + + + + M

INTEGUMENTARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE 0.3 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		1	5	2	1	2	3	3	3	2	5
	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		5	5	5	5	5	5	5	5	5	
		2	2	2	2	3	3	3	3	3	
		6	7	8	9	0	1	2	3	4	5
		* TOTALS									

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node + 2

Lymph Node, Bronchial + | + 8

Lymph Node, Mediastinal + + | 8

INTEGUMENTARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		1	5	2	1	2	3	3	3	2	5
0.3 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		5	5	5	5	5	5	5	5	5	
		2	2	2	2	3	3	3	3	3	
		6	7	8	9	0	1	2	3	4	5
* TOTALS											

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+	+				+	10
Lung			+	+				+	10
Nose			+	+				+	10
Trachea			+	+				+	10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+	+				+	10
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* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

1020 Long Multiwalled Carbon Nanotube

CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013

Time Report Requested: 07:42:27

First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		3	4	3	3	5	7	3	5	4	3	3	3	5	3	7	3	3	3	3	4	5	3	5	3	
1 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	females (cont...)
		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	

ALIMENTARY SYSTEM

Pharynx

+ + + + + + + +

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial

M + + + + + +

Lymph Node, Mediastinal

+ + I M + M +

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 mg/m3		3	4	3	3	3	7	7	7	3	3	4	4	4	4
	ANIMAL ID	1	5	2	1	2	3	3	3	3	2	5	5	5	5
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0
		7	7	7	7	7	7	7	7	7	7	7	7	7	7
		2	2	2	2	3	3	3	3	3	3	3	3	3	3
		6	7	8	9	0	1	2	3	4	5	5	5	5	5
* TOTALS															

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node, Bronchial + + + 9

Lymph Node, Mediastinal + + + 7

INTEGUMENTARY SYSTEM

NONE

MUSCULOSKELETAL SYSTEM

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

1020 Long Multiwalled Carbon Nanotube

CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013

Time Report Requested: 07:42:27

First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		1	5	2	1	2	3	3	3	2	5
1 mg/m3	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		7	7	7	7	7	7	7	7	7	
		2	2	2	2	3	3	3	3	3	
		6	7	8	9	0	1	2	3	4	5
* TOTALS											

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+		+				+	10
Lung			+		+				+	10
Nose			+		+				+	10
Trachea			+		+				+	10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+		+				+	10
----------------	--	--	---	--	---	--	--	--	---	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE 3 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4
		1	5	2	1	2	3	3	3	2	5
	ANIMAL ID	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	
		2	2	2	2	3	3	3	3	3	
		6	7	8	9	0	1	2	3	4	5
		* TOTALS									

ALIMENTARY SYSTEM

Pharynx + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node 1

Lymph Node, Bronchial I M + 6

Lymph Node, Mediastinal + + + 10

INTEGUMENTARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	3 mg/m3	DAY ON TEST										* TOTALS
		0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	
		3	4	3	3	3	7	7	7	3	4	
		1	5	2	1	2	3	3	3	2	5	
		ANIMAL ID										
		0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	0	0	0	0	0	0	
		9	9	9	9	9	9	9	9	9	9	
		2	2	2	2	3	3	3	3	3	3	
		6	7	8	9	0	1	2	3	4	5	

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx			+		+				+	10
Lung			+		+				+	10
Nose			+		+				+	10
Trachea			+		+				+	9

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ			+		+				+	10
----------------	--	--	---	--	---	--	--	--	---	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE 10 mg/m3	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0		
	ANIMAL ID	3	4	3	3	5	7	3	5	4	3	3	3	3	5	3	7	3	3	3	3	3	3	3	3	4	5	3	5	3	5	3	5	3	5	3	1	0	
	1	5	2	2	7	3	1	7	5	1	1	1	1	7	2	3	2	2	1	1	5	7	2	1	1	5	7	2	7	2	7	2	7	2	7	2	1	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
																														females (cont...)									

ALIMENTARY SYSTEM

Pharynx + + + + +

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node

Lymph Node, Bronchial + + + | + +

Lymph Node, Mediastinal + + + + + |

INTEGUMENTARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02
 Test Type: 30-day
 Route: RESPIRATORY EXPOSURE WHOLE BODY
 Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL
 1020 Long Multiwalled Carbon Nanotube
 CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013
 Time Report Requested: 07:42:27
 First Dose M/F: 05/30/11 / 05/30/11
 Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
10 mg/m3		3	4	3	3	3	7	7	7	3	3	4		
		2	5	2	2	1	3	3	3	2	5			
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0	0		
		1	1	1	1	1	1	1	1	1	1	1		
		1	1	1	1	1	1	1	1	1	1	1		
		2	2	2	2	3	3	3	3	3	3	3		
		6	7	8	9	0	1	2	3	4	5			
													* TOTALS	

ALIMENTARY SYSTEM

Pharynx + + + + 10

CARDIOVASCULAR SYSTEM

NONE

ENDOCRINE SYSTEM

NONE

GENERAL BODY SYSTEM

NONE

GENITAL SYSTEM

NONE

HEMATOPOIETIC SYSTEM

Lymph Node + 1

Lymph Node, Bronchial | | + M 6

Lymph Node, Mediastinal + + + + 9

INTEGUMENTARY SYSTEM

NONE

* .. Total animals with tissue examined microscopically; Total animals with tumor
 + .. Tissue examined microscopically
 X .. Lesion present
 I .. Insufficient tissue

M .. Missing tissue
 A .. Autolysis precludes evaluation
 BLANK .. Not examined microscopically

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

1020 Long Multiwalled Carbon Nanotube

CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013

Time Report Requested: 07:42:27

First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

B6C3F1 MICE FEMALE	DAY ON TEST	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0
10 mg/m3		3	4	3	3	3	7	7	7	3	3	4	
		2	5	2	2	1	3	3	3	2	5		
	ANIMAL ID	0	0	0	0	0	0	0	0	0	0		
		1	1	1	1	1	1	1	1	1	1		
		1	1	1	1	1	1	1	1	1	1		
		2	2	2	2	3	3	3	3	3	3		
		6	7	8	9	0	1	2	3	4	5		
* TOTALS													

MUSCULOSKELETAL SYSTEM

NONE

NERVOUS SYSTEM

NONE

RESPIRATORY SYSTEM

Larynx	+	+	+										10
Lung	+	+	+										10
Nose	+	+	+										10
Trachea	+	+	+										10

SPECIAL SENSES SYSTEM

NONE

URINARY SYSTEM

NONE

SYSTEMIC LESIONS

Multiple Organ	+	+	+										10
----------------	---	---	---	--	--	--	--	--	--	--	--	--	-----------

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P04: NEOPLASMS BY INDIVIDUAL ANIMAL

1020 Long Multiwalled Carbon Nanotube

CAS Number: L-MWNT-1020

Date Report Requested: 04/17/2013

Time Report Requested: 07:42:27

First Dose M/F: 05/30/11 / 05/30/11

Lab: BNW

*** END OF REPORT ***

* .. Total animals with tissue examined microscopically; Total animals with tumor
+ .. Tissue examined microscopically
X .. Lesion present
I .. Insufficient tissue

M .. Missing tissue
A .. Autolysis precludes evaluation
BLANK .. Not examined microscopically