

**Experiment Number:** 07062 - 02

**Test Type:** 30-day

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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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**SUMMARY OF STATISTICALLY SIGNIFICANT ( $P \leq .05$ ) RESULTS IN THE ANALYSIS OF 1020 LONG MULTIWALLED CARBON NANOTUBE**

**MALE MICE**

**Organ**

Larynx: Epiglottis  
Lung

Lung: Alveolus  
Lung: Bronchiole, Epithelium  
Lymph Node, Bronchial

Lymph Node, Mediastinal

Nose: Olfactory Epithelium  
Nose: Respiratory Epithelium

**FEMALE MICE**

**Organ**

Larynx: Epiglottis  
Lung

Lung: Alveolus  
Lung: Bronchiole, Epithelium  
Lymph Node, Bronchial

Lymph Node, Mediastinal

Nose: Olfactory Epithelium  
Nose: Respiratory Epithelium

**Morphology**

Metaplasia  
Foreign Body  
Inflammation Chronic  
Proteinosis  
Hyperplasia  
Foreign Body  
Hyperplasia Lymphoid  
Foreign Body  
Hyperplasia Lymphoid  
Accumulation, Hyaline Droplet  
Accumulation, Hyaline Droplet

**Morphology**

Metaplasia  
Foreign Body  
Inflammation Chronic  
Proteinosis  
Hyperplasia  
Foreign Body  
Hyperplasia Lymphoid  
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Hyperplasia Lymphoid  
Accumulation, Hyaline Droplet  
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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Larynx: Epiglottis Metaplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/9 (11%)	2/10 (20%)	3/10 (30%)	6/10 (60%)	9/10 (90%)	10/10 (100%)
POLY-3 RATE (b)	1/9.00	2/10.00	3/10.00	6/10.00	9/10.00	10/10.00
POLY-3 PERCENT (g)	11.1%	20%	30%	60%	90%	100%
TERMINAL (d)	1/9 (11%)	2/10 (20%)	3/10 (30%)	6/10 (60%)	9/10 (90%)	10/10 (100%)
FIRST INCIDENCE	31 (T)	31 (T)	31 (T)	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.538	P=0.333	P=0.029*	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.538	P=0.333	P=0.029*	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.538	P=0.333	P=0.029*	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.542	P=0.333	P=0.040*	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.311	P=0.169	P=0.009**	P<0.001**	P<0.001**

Experiment Number: 07062 - 02

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**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
Liver Necrosis Focal						
<b>LESION RATES</b>						
OVERALL (a)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	0/0.00	0/0.00	0/0.00	0/0.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Foreign Body</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	9/10 (90%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	9/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	90%	100%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	9/10 (90%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	31 (T)	31 (T)	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P=0.016*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P<0.001**	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung Inflammation Chronic</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	8/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	80%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P<0.001**	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Metaplasia Osseous</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung: Alveolus Proteinosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/10 (30%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	3/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	30%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/10 (30%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P=0.095	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P=0.095	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P=0.095	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P=0.105	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P=0.024*	(e)



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Species/Strain: MICE/B6C3F1

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

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung: Bronchiole, Epithelium Hyperplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	7/10 (70%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	7/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	70%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	7/10 (70%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P=0.002**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P<0.001**	(e)

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Species/Strain: MICE/B6C3F1

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

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node, Bronchial Foreign Body</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/6 (0%)	0/9 (0%)	0/7 (0%)	5/7 (71%)	9/9 (100%)	6/7 (86%)
POLY-3 RATE (b)	0/6.00	0/9.00	0/7.00	5/7.00	9/9.00	6/7.00
POLY-3 PERCENT (g)	0%	0%	0%	71.4%	100%	85.7%
TERMINAL (d)	0/6 (0%)	0/9 (0%)	0/7 (0%)	5/7 (71%)	9/9 (100%)	6/7 (86%)
FIRST INCIDENCE	---	---	---	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.003**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.003**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.003**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.016*	P<0.001**	P=0.004**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**

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 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node, Bronchial Hyperplasia Lymphoid</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/6 (0%)	0/9 (0%)	0/7 (0%)	2/7 (29%)	5/9 (56%)	3/7 (43%)
POLY-3 RATE (b)	0/6.00	0/9.00	0/7.00	2/7.00	5/9.00	3/7.00
POLY-3 PERCENT (g)	0%	0%	0%	28.6%	55.6%	42.9%
TERMINAL (d)	0/6 (0%)	0/9 (0%)	0/7 (0%)	2/7 (29%)	5/9 (56%)	3/7 (43%)
FIRST INCIDENCE	---	---	---	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.011*	(e)	(e)	P=0.257	P=0.028*	P=0.106
POLY 1.5	P=0.011*	(e)	(e)	P=0.257	P=0.028*	P=0.106
POLY 6	P=0.011*	(e)	(e)	P=0.257	P=0.028*	P=0.106
COCH-ARM / FISHERS	P=0.020*	(e)	(e)	P=0.269	P=0.042*	P=0.122
MAX-ISO-POLY-3	P=0.018*	(e)	(e)	P=0.084	P=0.010**	P=0.030*

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Test Type: 30-day

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Species/Strain: MICE/B6C3F1

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node, Mediastinal Foreign Body</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/9 (0%)	0/7 (0%)	1/8 (13%)	2/10 (20%)	1/9 (11%)	3/9 (33%)
POLY-3 RATE (b)	0/9.00	0/7.00	1/8.00	2/10.00	1/9.00	3/9.00
POLY-3 PERCENT (g)	0%	0%	12.5%	20%	11.1%	33.3%
TERMINAL (d)	0/9 (0%)	0/7 (0%)	1/8 (13%)	2/10 (20%)	1/9 (11%)	3/9 (33%)
FIRST INCIDENCE	---	---	31 (T)	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.052	(e)	P=0.476	P=0.251	P=0.500	P=0.091
POLY 1.5	P=0.052	(e)	P=0.476	P=0.251	P=0.500	P=0.091
POLY 6	P=0.052	(e)	P=0.476	P=0.251	P=0.500	P=0.091
COCH-ARM / FISHERS	P=0.052	(e)	P=0.471	P=0.263	P=0.500	P=0.103
MAX-ISO-POLY-3	P=0.034*	(e)	P=0.149	P=0.083	P=0.158	P=0.023*

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Species/Strain: MICE/B6C3F1

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Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node, Mediastinal Hyperplasia Lymphoid</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/9 (0%)	0/7 (0%)	0/8 (0%)	1/10 (10%)	1/9 (11%)	3/9 (33%)
POLY-3 RATE (b)	0/9.00	0/7.00	0/8.00	1/10.00	1/9.00	3/9.00
POLY-3 PERCENT (g)	0%	0%	0%	10%	11.1%	33.3%
TERMINAL (d)	0/9 (0%)	0/7 (0%)	0/8 (0%)	1/10 (10%)	1/9 (11%)	3/9 (33%)
FIRST INCIDENCE	---	---	---	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.008**	(e)	(e)	P=0.521	P=0.500	P=0.091
POLY 1.5	P=0.008**	(e)	(e)	P=0.521	P=0.500	P=0.091
POLY 6	P=0.008**	(e)	(e)	P=0.521	P=0.500	P=0.091
COCH-ARM / FISHERS	P=0.009**	(e)	(e)	P=0.526	P=0.500	P=0.103
MAX-ISO-POLY-3	P=0.012*	(e)	(e)	P=0.178	P=0.158	P=0.023*

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

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**  
 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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node: Lumbar Hyperplasia Lymphoid</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/0 (0%)	1/1 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	0/0.00	1/1.00	0/0.00	0/0.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	0%	100%	0%	0%	0%	0%
TERMINAL (d)	0/0 (0%)	1/1 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	31 (T)	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node: Lumbar Pigmentation</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/0 (0%)	1/1 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	0/0.00	1/1.00	0/0.00	0/0.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	0%	100%	0%	0%	0%	0%
TERMINAL (d)	0/0 (0%)	1/1 (100%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	---	31 (T)	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Nose Inflammation</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	1/10.00	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	10%	0%	0%	0%	0%	0%
TERMINAL (d)	1/10 (10%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	31 (T)	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.622N	P=0.500N	P=0.500N	P=0.500N	P=0.500N	P=0.500N
POLY 1.5	P=0.622N	P=0.500N	P=0.500N	P=0.500N	P=0.500N	P=0.500N
POLY 6	P=0.622N	P=0.500N	P=0.500N	P=0.500N	P=0.500N	P=0.500N
COCH-ARM / FISHERS	P=0.623N	P=0.500N	P=0.500N	P=0.500N	P=0.500N	P=0.500N
MAX-ISO-POLY-3	P=0.075N	P=0.158N	P=0.158N	P=0.158N	P=0.158N	P=0.158N



Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Nose: Olfactory Epithelium Accumulation, Hyaline Droplet</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	2/10 (20%)	9/10 (90%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	2/10.00	9/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	20%	90%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	2/10 (20%)	9/10 (90%)
FIRST INCIDENCE	---	---	---	---	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P=0.227	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P=0.227	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P=0.227	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P=0.237	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P=0.067	P<0.001**

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Males					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Nose: Respiratory Epithelium Accumulation, Hyaline Droplet</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/10 (30%)	9/10 (90%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	3/10.00	9/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	30%	90%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/10 (30%)	9/10 (90%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.095	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.095	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.095	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.105	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P=0.024*	P<0.001**	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Larynx: Epiglottis Metaplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	1/10 (10%)	1/10 (10%)	4/10 (40%)	6/10 (60%)	10/10 (100%)
POLY-3 RATE (b)	1/10.00	1/10.00	1/10.00	4/10.00	6/10.00	10/10.00
POLY-3 PERCENT (g)	10%	10%	10%	40%	60%	100%
TERMINAL (d)	1/10 (10%)	1/10 (10%)	1/10 (10%)	4/10 (40%)	6/10 (60%)	10/10 (100%)
FIRST INCIDENCE	32 (T)	32 (T)	32 (T)	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.760	P=0.760	P=0.148	P=0.018*	P<0.001**
POLY 1.5	P<0.001**	P=0.760	P=0.760	P=0.148	P=0.018*	P<0.001**
POLY 6	P<0.001**	P=0.760	P=0.760	P=0.148	P=0.018*	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.763N	P=0.763N	P=0.152	P=0.029*	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=1.000	P=1.000	P=0.059	P=0.005**	P<0.001**

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Liver</b>						
<b>Necrosis Focal</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/2 (50%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	1/2.00	0/0.00	0/0.00	0/0.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	50%	0%	0%	0%	0%	0%
TERMINAL (d)	1/2 (50%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)
FIRST INCIDENCE	32 (T)	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=1.000N	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Foreign Body</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	9/10 (90%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	9/10.00	10/10.00	10/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	90%	100%	100%	100%	100%
TERMINAL (d)	0/10 (0%)	9/10 (90%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	32 (T)	32 (T)	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P=0.016*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P<0.001**	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Inflammation Chronic</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	4/10 (40%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	4/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	40%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	4/10 (40%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.033*	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.033*	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.033*	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.043*	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P=0.007**	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung</b>						
<b>Metaplasia Osseous</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	1/10 (10%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	1/10.00	0/10.00	0/10.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	0%	10%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	1/10 (10%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	---	32 (T)	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.632N	P=0.500	(e)	(e)	(e)	(e)
POLY 1.5	P=0.632N	P=0.500	(e)	(e)	(e)	(e)
POLY 6	P=0.632N	P=0.500	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	P=0.633N	P=0.500	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	P=0.359N	P=0.158	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung: Alveolus Proteinosis</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	9/10 (90%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	9/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	90%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	9/10 (90%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P<0.001**	(e)



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

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS  
 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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lung: Bronchiole, Epithelium Hyperplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	6/10 (60%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	6/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	60%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	6/10 (60%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	---	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P=0.005**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P<0.001**	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node, Bronchial Foreign Body</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/9 (0%)	0/3 (0%)	0/8 (0%)	3/9 (33%)	5/6 (83%)	5/6 (83%)
POLY-3 RATE (b)	0/9.00	0/3.00	0/8.00	3/9.00	5/6.00	5/6.00
POLY-3 PERCENT (g)	0%	0%	0%	33.3%	83.3%	83.3%
TERMINAL (d)	0/9 (0%)	0/3 (0%)	0/8 (0%)	3/9 (33%)	5/6 (83%)	5/6 (83%)
FIRST INCIDENCE	---	---	---	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.091	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.091	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.091	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.103	P=0.002**	P=0.002**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P=0.023*	P<0.001**	P<0.001**

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node, Bronchial Hyperplasia Lymphoid</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/9 (11%)	0/3 (0%)	0/8 (0%)	2/9 (22%)	3/6 (50%)	5/6 (83%)
POLY-3 RATE (b)	1/9.00	0/3.00	0/8.00	2/9.00	3/6.00	5/6.00
POLY-3 PERCENT (g)	11.1%	0%	0%	22.2%	50%	83.3%
TERMINAL (d)	1/9 (11%)	0/3 (0%)	0/8 (0%)	2/9 (22%)	3/6 (50%)	5/6 (83%)
FIRST INCIDENCE	32 (T)	---	---	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.712N	P=0.523N	P=0.500	P=0.134	P<0.001**
POLY 1.5	P<0.001**	P=0.712N	P=0.523N	P=0.500	P=0.134	P<0.001**
POLY 6	P<0.001**	P=0.712N	P=0.523N	P=0.500	P=0.134	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.750N	P=0.529N	P=0.500	P=0.143	P=0.011*
MAX-ISO-POLY-3	P<0.001**	P=0.323N	P=0.180N	P=0.273	P=0.058	P<0.001**

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node, Mediastinal Foreign Body</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/7 (0%)	0/8 (0%)	0/8 (0%)	0/7 (0%)	4/10 (40%)	7/9 (78%)
POLY-3 RATE (b)	0/7.00	0/8.00	0/8.00	0/7.00	4/10.00	7/9.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	40%	77.8%
TERMINAL (d)	0/7 (0%)	0/8 (0%)	0/8 (0%)	0/7 (0%)	4/10 (40%)	7/9 (78%)
FIRST INCIDENCE	---	---	---	---	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	(e)	P=0.079	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	(e)	P=0.079	P<0.001**
POLY 6	P<0.001**	(e)	(e)	(e)	P=0.079	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	(e)	P=0.088	P=0.003**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P=0.031*	P<0.001**

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

## P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node, Mediastinal Hyperplasia Lymphoid</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/7 (0%)	0/8 (0%)	0/8 (0%)	1/7 (14%)	1/10 (10%)	5/9 (56%)
POLY-3 RATE (b)	0/7.00	0/8.00	0/8.00	1/7.00	1/10.00	5/9.00
POLY-3 PERCENT (g)	0%	0%	0%	14.3%	10%	55.6%
TERMINAL (d)	0/7 (0%)	0/8 (0%)	0/8 (0%)	1/7 (14%)	1/10 (10%)	5/9 (56%)
FIRST INCIDENCE	---	---	---	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.500	P=0.570	P=0.016*
POLY 1.5	P<0.001**	(e)	(e)	P=0.500	P=0.570	P=0.016*
POLY 6	P<0.001**	(e)	(e)	P=0.500	P=0.570	P=0.016*
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.500	P=0.588	P=0.029*
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P=0.158	P=0.221	P=0.005**

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node: Lumbar Hyperplasia Lymphoid</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/1 (0%)	0/1 (0%)	0/2 (0%)	0/0 (0%)	0/1 (0%)	0/1 (0%)
POLY-3 RATE (b)	0/1.00	0/1.00	0/2.00	0/0.00	0/1.00	0/1.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/1 (0%)	0/1 (0%)	0/2 (0%)	0/0 (0%)	0/1 (0%)	0/1 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)

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

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**  
 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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
 TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Lymph Node: Lumbar Pigmentation</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/1 (100%)	1/1 (100%)	2/2 (100%)	0/0 (0%)	1/1 (100%)	1/1 (100%)
POLY-3 RATE (b)	1/1.00	1/1.00	2/2.00	0/0.00	1/1.00	1/1.00
POLY-3 PERCENT (g)	100%	100%	100%	0%	100%	100%
TERMINAL (d)	1/1 (100%)	1/1 (100%)	2/2 (100%)	0/0 (0%)	1/1 (100%)	1/1 (100%)
FIRST INCIDENCE	32 (T)	32 (T)	32 (T)	---	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	(e)	(e)	(e)	(e)	(e)	(e)
POLY 1.5	(e)	(e)	(e)	(e)	(e)	(e)
POLY 6	(e)	(e)	(e)	(e)	(e)	(e)
COCH-ARM / FISHERS	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Nose Inflammation</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	---	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	(n)	(n)	(n)	(n)	(n)	(n)
POLY 1.5	(n)	(n)	(n)	(n)	(n)	(n)
POLY 6	(n)	(n)	(n)	(n)	(n)	(n)
COCH-ARM / FISHERS	(n)	(n)	(n)	(n)	(n)	(n)
MAX-ISO-POLY-3	(n)	(n)	(n)	(n)	(n)	(n)



Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Nose: Olfactory Epithelium Accumulation, Hyaline Droplet</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	1/10 (10%)	3/10 (30%)	8/10 (80%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	1/10.00	3/10.00	8/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	10%	30%	80%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	1/10 (10%)	3/10 (30%)	8/10 (80%)	10/10 (100%)
FIRST INCIDENCE	---	---	32 (T)	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	P=0.500	P=0.095	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	P=0.500	P=0.095	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	P=0.500	P=0.095	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	P=0.500	P=0.105	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	P=0.158	P=0.024*	P<0.001**	(e)

Experiment Number: 07062 - 02

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN MICE(B6C3F1)  
TERMINAL SACRIFICE AT 5 WEEKS**

DOSE	Females					
	Control	0.1 mg/m3	0.3 mg/m3	1 mg/m3	3 mg/m3	10 mg/m3
<b>Nose: Respiratory Epithelium Accumulation, Hyaline Droplet</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	8/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	80%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	8/10 (80%)	10/10 (100%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P<0.001**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P<0.001**	(e)	(e)

**Experiment Number:** 07062 - 02

**Test Type:** 30-day

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** MICE/B6C3F1

**P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS**

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

**LEGEND**

- (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.
  - (e) Value of statistic cannot be computed.
  - (f) Beneath the control incidence are the P-values associated with the trend test. Beneath the dosed group incidence are the P-values corresponding to pairwise comparisons between the controls and that dosed group.
  - (g) Poly-3 adjusted lifetime tumor incidence.
  - (n) No statistics are calculated if all dose groups have fewer than two tumors.
  - (I) Interim sacrifice
  - (T) Terminal sacrifice
  - # Tumor rates based on numbers of animals necropsied.
  - \* To the right of any statistical result, indicates significance at ( $P \leq 0.05$ ).
  - \*\* To the right of any statistical result, indicates significance at ( $P \leq 0.01$ ).
  - N Indicates a negative trend for all tests
- The Cochran-Armitage and Fishers exact tests compare directly the overall incidence rates.

\*\*\* END OF REPORT \*\*\*