

**Experiment Number:** 07062 - 01  
**Test Type:** 30-day  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** RATS/HSD

**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:** 05/23/11 / 05/23/11  
**Lab:** BNW

F1\_HSD

**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 RATS

#### Organ

Larynx: Epiglottis

Lung

Lung: Alveolar Epithelium

Lymph Node, Bronchial

Lymph Node, Mediastinal

Nose: Olfactory Epithelium

#### FEMALE RATS

#### Organ

Larynx: Epiglottis

Lung

Lung: Alveolar Epithelium

Lymph Node, Bronchial

Lymph Node, Mediastinal

Nose: Olfactory Epithelium

#### Morphology

Metaplasia

Foreign Body

Inflammation Chronic

Hyperplasia

Foreign Body

Hyperplasia Lymphoid

Foreign Body

Hyperplasia Lymphoid

Accumulation, Hyaline Droplet

#### Morphology

Metaplasia

Foreign Body

Inflammation Chronic

Hyperplasia

Foreign Body

Hyperplasia Lymphoid

Foreign Body

Hyperplasia Lymphoid

Accumulation, Hyaline Droplet

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STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	9/10 (90%)	9/10 (90%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	1/10.00	9/10.00	9/10.00
POLY-3 PERCENT (g)	0%	0%	0%	10%	90%	90%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	9/10 (90%)	9/10 (90%)
FIRST INCIDENCE	---	---	---	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.500	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.500	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.500	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.500	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P=0.158	P<0.001**	P<0.001**

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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>Liver</b>						
<b>Necrosis Focal</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)

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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>						
<b>OVERALL (a)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	0/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	0%	100%	100%	100%	100%	100%
<b>TERMINAL (d)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	---	31 (T)	31 (T)	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P=0.023*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 1.5</b>	P=0.023*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 6</b>	P=0.023*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>COCH-ARM / FISHERS</b>	P=0.023*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>MAX-ISO-POLY-3</b>	P<0.001**	(e)	(e)	(e)	(e)	(e)

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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>Inflammation Chronic</b>						
<b>LESION RATES</b>						
<b>OVERALL (a)</b>	5/10 (50%)	1/10 (10%)	2/10 (20%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	5/10.00	1/10.00	2/10.00	10/10.00	10/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	50%	10%	20%	100%	100%	100%
<b>TERMINAL (d)</b>	5/10 (50%)	1/10 (10%)	2/10 (20%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	31 (T)	31 (T)	31 (T)	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P<0.001**	P=0.061N	P=0.174N	P=0.008**	P=0.008**	P=0.008**
<b>POLY 1.5</b>	P<0.001**	P=0.061N	P=0.174N	P=0.008**	P=0.008**	P=0.008**
<b>POLY 6</b>	P<0.001**	P=0.061N	P=0.174N	P=0.008**	P=0.008**	P=0.008**
<b>COCH-ARM / FISHERS</b>	P<0.001**	P=0.070N	P=0.175N	P=0.016*	P=0.016*	P=0.016*
<b>MAX-ISO-POLY-3</b>	P<0.001**	P=0.020N*	P=0.079N	P=0.002**	P=0.002**	P=0.002**

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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: Alveolar Epithelium Hyperplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/10 (30%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	3/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	30%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	3/10 (30%)	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=0.095	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*	(e)	(e)

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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%)	0/6 (0%)	0/9 (0%)	4/7 (57%)	6/7 (86%)	7/7 (100%)
POLY-3 RATE (b)	0/6.00	0/6.00	0/9.00	4/7.00	6/7.00	7/7.00
POLY-3 PERCENT (g)	0%	0%	0%	57.1%	85.7%	100%
TERMINAL (d)	0/6 (0%)	0/6 (0%)	0/9 (0%)	4/7 (57%)	6/7 (86%)	7/7 (100%)
FIRST INCIDENCE	---	---	---	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.029*	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.029*	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.029*	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.049*	P=0.004**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P=0.006**	P<0.001**	P<0.001**



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First Dose M/F: 05/23/11 / 05/23/11

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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%)	0/6 (0%)	0/9 (0%)	0/7 (0%)	6/7 (86%)	2/7 (29%)
POLY-3 RATE (b)	0/6.00	0/6.00	0/9.00	0/7.00	6/7.00	2/7.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	85.7%	28.6%
TERMINAL (d)	0/6 (0%)	0/6 (0%)	0/9 (0%)	0/7 (0%)	6/7 (86%)	2/7 (29%)
FIRST INCIDENCE	---	---	---	---	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.004**	(e)	(e)	(e)	P<0.001**	P=0.257
POLY 1.5	P=0.004**	(e)	(e)	(e)	P<0.001**	P=0.257
POLY 6	P=0.004**	(e)	(e)	(e)	P<0.001**	P=0.257
COCH-ARM / FISHERS	P=0.046*	(e)	(e)	(e)	P=0.004**	P=0.269
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	(e)	P<0.001**	P=0.084

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Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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)	0/7 (0%)	0/9 (0%)	0/10 (0%)	3/9 (33%)	8/9 (89%)	10/10 (100%)
POLY-3 RATE (b)	0/7.00	0/9.00	0/10.00	3/9.00	8/9.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	33.3%	88.9%	100%
TERMINAL (d)	0/7 (0%)	0/9 (0%)	0/10 (0%)	3/9 (33%)	8/9 (89%)	10/10 (100%)
FIRST INCIDENCE	---	---	---	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.139	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.139	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.139	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.150	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P=0.050*	P<0.001**	(e)

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 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)	0/7 (0%)	3/9 (33%)	1/10 (10%)	3/9 (33%)	8/9 (89%)	9/10 (90%)
POLY-3 RATE (b)	0/7.00	3/9.00	1/10.00	3/9.00	8/9.00	9/10.00
POLY-3 PERCENT (g)	0%	33.3%	10%	33.3%	88.9%	90%
TERMINAL (d)	0/7 (0%)	3/9 (33%)	1/10 (10%)	3/9 (33%)	8/9 (89%)	9/10 (90%)
FIRST INCIDENCE	---	31 (T)	31 (T)	31 (T)	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.139	P=0.570	P=0.139	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.139	P=0.570	P=0.139	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.139	P=0.570	P=0.139	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.150	P=0.588	P=0.150	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.050*	P=0.221	P=0.050*	P<0.001**	P<0.001**

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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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 Pigmentation</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/7 (0%)	0/9 (0%)	0/10 (0%)	0/9 (0%)	0/9 (0%)	0/10 (0%)
POLY-3 RATE (b)	0/7.00	0/9.00	0/10.00	0/9.00	0/9.00	0/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	0%
TERMINAL (d)	0/7 (0%)	0/9 (0%)	0/10 (0%)	0/9 (0%)	0/9 (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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**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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: Iliac Pigmentation</b>						
<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 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

**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: 05/23/11 / 05/23/11

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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%)	1/10 (10%)	3/10 (30%)	0/10 (0%)	0/10 (0%)	3/10 (30%)
POLY-3 RATE (b)	0/10.00	1/10.00	3/10.00	0/10.00	0/10.00	3/10.00
POLY-3 PERCENT (g)	0%	10%	30%	0%	0%	30%
TERMINAL (d)	0/10 (0%)	1/10 (10%)	3/10 (30%)	0/10 (0%)	0/10 (0%)	3/10 (30%)
FIRST INCIDENCE	---	31 (T)	31 (T)	---	---	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.102	P=0.500	P=0.095	(e)	(e)	P=0.095
POLY 1.5	P=0.102	P=0.500	P=0.095	(e)	(e)	P=0.095
POLY 6	P=0.102	P=0.500	P=0.095	(e)	(e)	P=0.095
COCH-ARM / FISHERS	P=0.112	P=0.500	P=0.105	(e)	(e)	P=0.105
MAX-ISO-POLY-3	P=0.026*	P=0.158	P=0.024*	(e)	(e)	P=0.024*

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

**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: 05/23/11 / 05/23/11

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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%)	0/10 (0%)	1/10 (10%)	1/10 (10%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	1/10.00	1/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	10%	10%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)	1/10 (10%)
FIRST INCIDENCE	---	---	---	---	31 (T)	31 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.175	(e)	(e)	(e)	P=0.500	P=0.500
POLY 1.5	P=0.175	(e)	(e)	(e)	P=0.500	P=0.500
POLY 6	P=0.175	(e)	(e)	(e)	P=0.500	P=0.500
COCH-ARM / FISHERS	P=0.170	(e)	(e)	(e)	P=0.500	P=0.500
MAX-ISO-POLY-3	P=0.204	(e)	(e)	(e)	P=0.158	P=0.158

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

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: 05/23/11 / 05/23/11

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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)	0/10 (0%)	1/10 (10%)	0/10 (0%)	6/10 (60%)	9/10 (90%)	7/10 (70%)
POLY-3 RATE (b)	0/10.00	1/10.00	0/10.00	6/10.00	9/10.00	7/10.00
POLY-3 PERCENT (g)	0%	10%	0%	60%	90%	70%
TERMINAL (d)	0/10 (0%)	1/10 (10%)	0/10 (0%)	6/10 (60%)	9/10 (90%)	7/10 (70%)
FIRST INCIDENCE	---	32 (T)	---	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.500	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.500	(e)	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.500	(e)	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.500	(e)	P=0.005**	P<0.001**	P=0.002**
MAX-ISO-POLY-3	P<0.001**	P=0.158	(e)	P<0.001**	P<0.001**	P<0.001**



Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

**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: 05/23/11 / 05/23/11

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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
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 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

## 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: 05/23/11 / 05/23/11

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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>						
<b>OVERALL (a)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>POLY-3 RATE (b)</b>	0/10.00	10/10.00	10/10.00	10/10.00	10/10.00	10/10.00
<b>POLY-3 PERCENT (g)</b>	0%	100%	100%	100%	100%	100%
<b>TERMINAL (d)</b>	0/10 (0%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)	10/10 (100%)
<b>FIRST INCIDENCE</b>	---	32 (T)	32 (T)	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
<b>POLY 3</b>	P=0.023*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 1.5</b>	P=0.023*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>POLY 6</b>	P=0.023*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>COCH-ARM / FISHERS</b>	P=0.023*	P<0.001**	P<0.001**	P<0.001**	P<0.001**	P<0.001**
<b>MAX-ISO-POLY-3</b>	P<0.001**	(e)	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 01  
 Test Type: 30-day  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: RATS/HSD

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: 05/23/11 / 05/23/11  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
 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 Inflammation Chronic</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	3/10 (30%)	2/10 (20%)	6/10 (60%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	3/10.00	2/10.00	6/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	30%	20%	60%	100%	100%
TERMINAL (d)	0/10 (0%)	3/10 (30%)	2/10 (20%)	6/10 (60%)	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=0.095	P=0.227	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.095	P=0.227	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.095	P=0.227	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.105	P=0.237	P=0.005**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.024*	P=0.067	P<0.001**	(e)	(e)

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

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: 05/23/11 / 05/23/11

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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: Alveolar Epithelium Hyperplasia</b>						
<b>LESION RATES</b>						
OVERALL (a)	0/10 (0%)	0/10 (0%)	0/10 (0%)	2/10 (20%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	2/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	0%	0%	20%	100%	100%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	2/10 (20%)	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=0.227	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.227	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.227	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.237	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P=0.067	(e)	(e)

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

## 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: 05/23/11 / 05/23/11

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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)	0/7 (0%)	0/6 (0%)	0/4 (0%)	4/6 (67%)	7/7 (100%)	9/9 (100%)
POLY-3 RATE (b)	0/7.00	0/6.00	0/4.00	4/6.00	7/7.00	9/9.00
POLY-3 PERCENT (g)	0%	0%	0%	66.7%	100%	100%
TERMINAL (d)	0/7 (0%)	0/6 (0%)	0/4 (0%)	4/6 (67%)	7/7 (100%)	9/9 (100%)
FIRST INCIDENCE	---	---	---	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	(e)	(e)	P=0.004**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	(e)	(e)	P=0.004**	P<0.001**	P<0.001**
POLY 6	P<0.001**	(e)	(e)	P=0.004**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	(e)	(e)	P=0.021*	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	(e)	(e)	P<0.001**	(e)	(e)

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

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: 05/23/11 / 05/23/11

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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)	0/7 (0%)	1/6 (17%)	0/4 (0%)	2/6 (33%)	6/7 (86%)	7/9 (78%)
POLY-3 RATE (b)	0/7.00	1/6.00	0/4.00	2/6.00	6/7.00	7/9.00
POLY-3 PERCENT (g)	0%	16.7%	0%	33.3%	85.7%	77.8%
TERMINAL (d)	0/7 (0%)	1/6 (17%)	0/4 (0%)	2/6 (33%)	6/7 (86%)	7/9 (78%)
FIRST INCIDENCE	---	32 (T)	---	32 (T)	32 (T)	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P<0.001**	P=0.469	(e)	P=0.178	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.469	(e)	P=0.178	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.469	(e)	P=0.178	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.462	(e)	P=0.192	P=0.002**	P=0.003**
MAX-ISO-POLY-3	P<0.001**	P=0.146	(e)	P=0.049*	P<0.001**	P<0.001**

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

## 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: 05/23/11 / 05/23/11

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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)	0/10 (0%)	1/10 (10%)	1/9 (11%)	6/10 (60%)	10/10 (100%)	10/10 (100%)
POLY-3 RATE (b)	0/10.00	1/10.00	1/9.00	6/10.00	10/10.00	10/10.00
POLY-3 PERCENT (g)	0%	10%	11.1%	60%	100%	100%
TERMINAL (d)	0/10 (0%)	1/10 (10%)	1/9 (11%)	6/10 (60%)	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=0.500	P=0.479	P<0.001**	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.500	P=0.479	P<0.001**	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.500	P=0.479	P<0.001**	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.500	P=0.474	P=0.005**	P<0.001**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.158	P=0.150	P<0.001**	(e)	(e)

Experiment Number: 07062 - 01  
 Test Type: 30-day  
 Route: RESPIRATORY EXPOSURE WHOLE BODY  
 Species/Strain: RATS/HSD

**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: 05/23/11 / 05/23/11  
 Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
 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)	2/10 (20%)	3/10 (30%)	3/9 (33%)	7/10 (70%)	9/10 (90%)	10/10 (100%)
POLY-3 RATE (b)	2/10.00	3/10.00	3/9.00	7/10.00	9/10.00	10/10.00
POLY-3 PERCENT (g)	20%	30%	33.3%	70%	90%	100%
TERMINAL (d)	2/10 (20%)	3/10 (30%)	3/9 (33%)	7/10 (70%)	9/10 (90%)	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=0.500	P=0.448	P=0.024*	P<0.001**	P<0.001**
POLY 1.5	P<0.001**	P=0.500	P=0.448	P=0.024*	P<0.001**	P<0.001**
POLY 6	P<0.001**	P=0.500	P=0.448	P=0.024*	P<0.001**	P<0.001**
COCH-ARM / FISHERS	P<0.001**	P=0.500	P=0.444	P=0.035*	P=0.003**	P<0.001**
MAX-ISO-POLY-3	P<0.001**	P=0.310	P=0.269	P=0.007**	P<0.001**	P<0.001**



Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

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: 05/23/11 / 05/23/11

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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 Pigmentation</b>						
<b>LESION RATES</b>						
OVERALL (a)	1/10 (10%)	0/10 (0%)	0/9 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
POLY-3 RATE (b)	1/10.00	0/10.00	0/9.00	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%)	0/9 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)
FIRST INCIDENCE	32 (T)	---	---	---	---	---
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.617N	P=0.500N	P=0.521N	P=0.500N	P=0.500N	P=0.500N
POLY 1.5	P=0.617N	P=0.500N	P=0.521N	P=0.500N	P=0.500N	P=0.500N
POLY 6	P=0.617N	P=0.500N	P=0.521N	P=0.500N	P=0.500N	P=0.500N
COCH-ARM / FISHERS	P=0.618N	P=0.500N	P=0.526N	P=0.500N	P=0.500N	P=0.500N
MAX-ISO-POLY-3	P=0.078N	P=0.158N	P=0.178N	P=0.158N	P=0.158N	P=0.158N

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

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: 05/23/11 / 05/23/11

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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
Lymph Node: Iliac Pigmentation						
<b>LESION RATES</b>						
OVERALL (a)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)
POLY-3 RATE (b)	0/0.00	0/0.00	0/0.00	0/0.00	0/0.00	1/1.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	100%
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)
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	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

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Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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)	1/10 (10%)	0/10 (0%)	1/10 (10%)	1/10 (10%)	0/10 (0%)	4/10 (40%)
POLY-3 RATE (b)	1/10.00	0/10.00	1/10.00	1/10.00	0/10.00	4/10.00
POLY-3 PERCENT (g)	10%	0%	10%	10%	0%	40%
TERMINAL (d)	1/10 (10%)	0/10 (0%)	1/10 (10%)	1/10 (10%)	0/10 (0%)	4/10 (40%)
FIRST INCIDENCE	32 (T)	---	32 (T)	32 (T)	---	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.006**	P=0.500N	P=0.760	P=0.760	P=0.500N	P=0.148
POLY 1.5	P=0.006**	P=0.500N	P=0.760	P=0.760	P=0.500N	P=0.148
POLY 6	P=0.006**	P=0.500N	P=0.760	P=0.760	P=0.500N	P=0.148
COCH-ARM / FISHERS	P=0.009**	P=0.500N	P=0.763N	P=0.763N	P=0.500N	P=0.152
MAX-ISO-POLY-3	P=0.010**	P=0.158N	P=1.000	P=1.000	P=0.158N	P=0.059

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

**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: 05/23/11 / 05/23/11

Lab: BNW

**STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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%)	0/10 (0%)	0/10 (0%)	1/10 (10%)
POLY-3 RATE (b)	0/10.00	0/10.00	0/10.00	0/10.00	0/10.00	1/10.00
POLY-3 PERCENT (g)	0%	0%	0%	0%	0%	10%
TERMINAL (d)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	0/10 (0%)	1/10 (10%)
FIRST INCIDENCE	---	---	---	---	---	32 (T)
<b>STATISTICAL TESTS</b>						
POLY 3	P=0.124	(e)	(e)	(e)	(e)	P=0.500
POLY 1.5	P=0.124	(e)	(e)	(e)	(e)	P=0.500
POLY 6	P=0.124	(e)	(e)	(e)	(e)	P=0.500
COCH-ARM / FISHERS	P=0.122	(e)	(e)	(e)	(e)	P=0.500
MAX-ISO-POLY-3	P=0.075	(e)	(e)	(e)	(e)	P=0.158

Experiment Number: 07062 - 01

Test Type: 30-day

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/HSD

P10: STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS

1020 Long Multiwalled Carbon Nanotube

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Date Report Requested: 04/17/2013

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First Dose M/F: 05/23/11 / 05/23/11

Lab: BNW

STATISTICAL ANALYSIS OF NON-NEOPLASTIC LESIONS IN RATS(HSD)  
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
Uterus: Endometrium Hyperplasia Cystic						
<b>LESION RATES</b>						
OVERALL (a)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)	0/0 (0%)	0/0 (0%)
POLY-3 RATE (b)	0/0.00	0/0.00	0/0.00	1/1.00	0/0.00	0/0.00
POLY-3 PERCENT (g)	0%	0%	0%	100%	0%	0%
TERMINAL (d)	0/0 (0%)	0/0 (0%)	0/0 (0%)	1/1 (100%)	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	(e)	(e)	(e)	(e)	(e)	(e)
MAX-ISO-POLY-3	(e)	(e)	(e)	(e)	(e)	(e)

**Experiment Number:** 07062 - 01

**Test Type:** 30-day

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** RATS/HSD

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

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**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 \*\*\*