

Experiment Number: 813421

Test Type: **Genetic Toxicology - Bacterial
Mutagenicity**

G06: Ames Summary Data

Test Compound: **Morpholine**

CAS Number: **110-91-8**

Date Report Requested: **09/15/2018**

Time Report Requested: **13:56:19**

NTP Study Number:

813421

Study Result:

Negative

Experiment Number: 813421

Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data

Test Compound: Morpholine

CAS Number: 110-91-8

Date Report Requested: 09/15/2018

Time Report Requested: 13:56:19

Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9	With 10% Hamster S9
Vehicle Control ¹	130 ± 5.3	144 ± 1.2	127 ± 4.1	123 ± 0.9	149 ± 4.3
109.0	137 ± 2.5	152 ± 8.6	118 ± 4.0	149 ± 2.3	130 ± 5.3
363.3	119 ± 7.6	141 ± 8.8	122 ± 1.5	128 ± 9.7	145 ± 9.5
1090.0	123 ± 9.3	144 ± 3.1	125 ± 9.6	135 ± 3.5	132 ± 6.2
3633.3	118 ± 12.2	148 ± 2.6	133 ± 5.2	143 ± 7.2	137 ± 2.0
10900.0	140 ± 1.3	98 ± 6.4 ^s	135 ± 7.5	142 ± 5.0	165 ± 8.0
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²					1990 ± 45.1
Positive Control ³			922 ± 24.8	948 ± 52.1	
Positive Control ⁴	1274 ± 32.6	1786 ± 37.8			

Experiment Number: 813421

Test Type: **Genetic Toxicology - Bacterial Mutagenicity**

G06: Ames Summary Data

Test Compound: **Morpholine**

CAS Number: **110-91-8**

Date Report Requested: **09/15/2018**

Time Report Requested: **13:56:19**

Strain: TA100

Dose (ug/Plate)	With 10% Hamster S9
Vehicle Control ¹	151 ± 2.3
109.0	157 ± 1.9
363.3	151 ± 4.3
1090.0	145 ± 3.2
3633.3	148 ± 10.1
10900.0	174 ± 3.8
Trial Summary	Negative
Positive Control ²	1914 ± 67.8
Positive Control ³	
Positive Control ⁴	

Experiment Number: 813421

Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data

Test Compound: Morpholine

CAS Number: 110-91-8

Date Report Requested: 09/15/2018

Time Report Requested: 13:56:19

Strain: TA1535

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9	With 10% Hamster S9
Vehicle Control ¹	17 ± 2.4	16 ± 0.6	7 ± 1.7	8 ± 1.0	12 ± 1.2
109.0	15 ± 0.3	17 ± 4.7	7 ± 0.9	12 ± 2.3	12 ± 2.2
363.3	16 ± 0.9	15 ± 1.2	10 ± 2.5	8 ± 0.6	11 ± 0.6
1090.0	15 ± 2.9	18 ± 1.5	12 ± 2.0	9 ± 0.9	5 ± 1.8
3633.3	14 ± 0.7	12 ± 0.6	12 ± 1.5	8 ± 1.5	6 ± 0.6
10900.0	10 ± 2.7 ^s	9 ± 3.3 ^s	12 ± 2.3	10 ± 2.4	11 ± 2.1
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²					109 ± 7.6
Positive Control ³			48 ± 1.2	78 ± 6.4	
Positive Control ⁴	919 ± 21.6	1175 ± 14.9			

Experiment Number: 813421
Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data
Test Compound: Morpholine
CAS Number: 110-91-8

Date Report Requested: 09/15/2018
Time Report Requested: 13:56:19

Strain: TA1535

Dose (ug/Plate)	With 10% Hamster S9
Vehicle Control ¹	9 ± 1.5
109.0	11 ± 2.3
363.3	7 ± 0.3
1090.0	11 ± 2.2
3633.3	10 ± 2.0
10900.0	13 ± 3.6
Trial Summary	Negative
Positive Control ²	141 ± 11.0
Positive Control ³	
Positive Control ⁴	

Experiment Number: 813421

Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data

Test Compound: Morpholine

CAS Number: 110-91-8

Date Report Requested: 09/15/2018

Time Report Requested: 13:56:19

Strain: TA1537

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9	With 10% Hamster S9
Vehicle Control ¹	7 ± 0.6	8 ± 1.7	8 ± 0.7	8 ± 1.7	6 ± 1.3
109.0	5 ± 0.3	10 ± 0.9	9 ± 1.8	7 ± 2.3	7 ± 0.7
363.3	7 ± 1.5	5 ± 0.6	7 ± 1.2	7 ± 0.7	9 ± 1.0
1090.0	9 ± 0.6	7 ± 0.3	9 ± 0.3	8 ± 2.0	10 ± 2.6
3633.3	Toxic	9 ± 2.0	9 ± 1.0	6 ± 1.8	8 ± 2.7
10900.0	Toxic	4 ± 0.3 ^s	Toxic	5 ± 0.9	Toxic
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²					259 ± 42.7
Positive Control ³			58 ± 1.3	86 ± 8.4	
Positive Control ⁵	279 ± 37.0	371 ± 47.6			

Experiment Number: 813421

Test Type: **Genetic Toxicology - Bacterial Mutagenicity**

G06: Ames Summary Data

Test Compound: **Morpholine**

CAS Number: **110-91-8**

Date Report Requested: **09/15/2018**

Time Report Requested: **13:56:19**

Strain: TA1537

Dose (ug/Plate)	With 10% Hamster S9
Vehicle Control ¹	6 ± 0.3
109.0	6 ± 2.3
363.3	8 ± 1.2
1090.0	9 ± 2.0
3633.3	7 ± 1.0
10900.0	8 ± 1.5
Trial Summary	Negative
Positive Control ²	278 ± 27.5
Positive Control ³	
Positive Control ⁵	

Experiment Number: 813421

Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data

Test Compound: Morpholine

CAS Number: 110-91-8

Date Report Requested: 09/15/2018

Time Report Requested: 13:56:19

Strain: TA98

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9	With 10% Hamster S9
Vehicle Control ¹	18 ± 2.3	20 ± 3.1	27 ± 1.5	21 ± 1.5	23 ± 3.0
109.0	18 ± 0.9	15 ± 1.9	25 ± 2.0	27 ± 0.0	29 ± 3.8
363.3	18 ± 2.1	25 ± 4.5	26 ± 4.0	24 ± 2.0	28 ± 1.7
1090.0	16 ± 2.3	19 ± 3.6	24 ± 2.6	30 ± 0.6	27 ± 3.6
3633.3	20 ± 0.9	10 ± 0.3	24 ± 2.4	23 ± 4.7	27 ± 4.4
10900.0	Toxic	87 ± 75.0 ^s	22 ± 3.8	16 ± 2.6 ^s	28 ± 3.8
Trial Summary	Negative	No Call	Negative	Negative	Negative
Positive Control ²					2594 ± 48.6
Positive Control ³			1185 ± 24.6	1238 ± 28.2	
Positive Control ⁶	1243 ± 39.8	1193 ± 40.9			

Experiment Number: 813421
Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data
Test Compound: Morpholine
CAS Number: 110-91-8

Date Report Requested: 09/15/2018
Time Report Requested: 13:56:19

Strain: TA98

Dose (ug/Plate)	With 10% Hamster S9
Vehicle Control ¹	34 ± 0.6
109.0	28 ± 3.3
363.3	26 ± 1.0
1090.0	24 ± 4.0
3633.3	25 ± 1.7
10900.0	Toxic
Trial Summary	Negative
Positive Control ²	2070 ± 51.9
Positive Control ³	
Positive Control ⁶	

Experiment Number: 813421

Test Type: **Genetic Toxicology - Bacterial
Mutagenicity**

G06: Ames Summary Data

Test Compound: **Morpholine**

CAS Number: **110-91-8**

Date Report Requested: **09/15/2018**

Time Report Requested: **13:56:19**

LEGEND

Values given as Mean or Mean \pm Standard Error Mean

The number of samples = 3, unless samples marked toxic or contaminated were excluded from mean and SEM calculations

CAS Number = Chemical Abstracts Service registry number

1: Vehicle Control: Water

2: 0.75 ug/Plate 2-Aminoanthracene

3: 1.5 ug/Plate 2-Aminoanthracene

4: 2.5 ug/Plate Sodium Azide

5: 80.0 ug/Plate 9-Aminoacridine

6: 12.0 ug/Plate 4-Nitro-O-Phenylenediamine

s: Slight Toxicity

**** END OF REPORT ****