Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

NTP Study Number: 225498

Study Result: Negative

Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9	With 10% Hamster S9
Vehicle Control[1]	118 ± 7.0	192 ± 3.5	119 ± 0.6	160 ± 14.1	108 ± 15.2
100.0	109 ± 5.0	172 ± 2.3	120 ± 9.6	173 ± 10.0	101 ± 8.5
333.0	107 ± 5.2	170 ± 7.3	112 ± 14.1	158 ± 10.1	112 ± 10.3
1000.0	102 ± 0.9	174 ± 2.4	117 ± 5.5	170 ± 4.9	110 ± 5.9
3333.0	100 ± 10.8	167 ± 13.1	104 ± 13.2	169 ± 12.2	98 ± 4.9
10000.0	115 ± 6.2	171 ± 8.3	113 ± 5.3	163 ± 7.8	101 ± 4.7
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[2]					842 ± 40.8
Positive Control[3]			1075 ± 52.6	1155 ± 34.2	
Positive Control[4]	1162 ± 40.2	1123 ± 10.7			

Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

Strain: TA100

Dose (ug/Plate)	With 10% Hamster S9
Vehicle Control[1]	141 ± 2.5
100.0	135 ± 4.3
333.0	128 ± 6.7
1000.0	147 ± 6.4
3333.0	137 ± 6.2
10000.0	142 ± 2.0
Trial Summary	Negative
Positive Control[2]	1204 ± 38.1
Positive Control[3]	
Positive Control[4]	

Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

Strain: TA1535

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9
Vehicle Control[1]	33 ± 3.5	49 ± 3.1	20 ± 4.1	10 ± 2.3	14 ± 1.8
100.0	21 ± 0.7	36 ± 1.7	18 ± 3.0	12 ± 1.0	16 ± 1.7
333.0	27 ± 1.9	42 ± 1.0	21 ± 2.2	11 ± 1.3	15 ± 2.3
1000.0	19 ± 1.2	36 ± 3.4	18 ± 2.3	10 ± 3.0	15 ± 0.3
3333.0	22 ± 4.8	38 ± 3.4	20 ± 3.1	13 ± 1.5	12 ± 2.5
10000.0	24 ± 5.3	32 ± 2.1	14 ± 0.9	11 ± 3.0	17 ± 3.8
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[2]					
Positive Control[3]				72 ± 6.8	74 ± 4.9
Positive Control[4]	849 ± 38.2	870 ± 27.2	378 ± 25.9		

Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

Strain: TA1535

Dose (ug/Plate)	With 10% Hamster S9	With 10% Hamster S9
Vehicle Control[1]	10 ± 0.9	13 ± 1.3
100.0	13 ± 2.6	13 ± 2.0
333.0	11 ± 1.5	12 ± 0.6
1000.0	14 ± 3.2	13 ± 3.8
3333.0	9 ± 1.7	8 ± 0.7
10000.0	11 ± 2.5	13 ± 1.2
Trial Summary	Negative	Negative
Positive Control[2]	89 ± 9.2	85 ± 2.7
Positive Control[3]		
Positive Control[4]		

Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

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 ± 0.7	8 ± 1.8	7 ± 1.2	10 ± 1.2	6 ± 1.9
100.0	5 ± 1.5	8 ± 2.1	7 ± 1.8	11 ± 2.3	7 ± 2.2
333.0	4 ± 1.2	10 ± 2.9	8 ± 0.7	8 ± 0.3	4 ± 0.7
1000.0	5 ± 1.2	9 ± 1.9	7 ± 1.8	12 ± 4.0	6 ± 0.9
3333.0	5 ± 0.3	9 ± 1.7	6 ± 2.3	9 ± 2.6	5 ± 1.8
10000.0	6 ± 0.9	9 ± 1.8	6 ± 1.2	9 ± 2.6	6 ± 1.9
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[2]					46 ± 2.9
Positive Control[3]			75 ± 4.7	87 ± 2.5	
Positive Control[5]	244 ± 21.7	469 ± 36.7			

Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

Strain: TA1537

Dose (ug/Plate)	With 10% Hamster S9
Vehicle Control[1]	8 ± 0.6
100.0	11 ± 1.7
333.0	13 ± 1.5
1000.0	10 ± 4.2
3333.0	9 ± 3.1
10000.0	12 ± 1.5
Trial Summary	Negative
Positive Control[2]	110 ± 11.2
Positive Control[3]	
Positive Control[5]	

Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

Strain: TA98

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9	With 10% Hamster S9
Vehicle Control[1]	15 ± 1.7	20 ± 2.8	30 ± 6.2	31 ± 1.5	26 ± 3.2
100.0	9 ± 2.3	18 ± 2.4	27 ± 3.4	36 ± 5.4	22 ± 1.0
333.0	12 ± 4.1	18 ± 2.3	26 ± 0.7	21 ± 1.5	30 ± 5.7
1000.0	15 ± 3.2	20 ± 3.5	24 ± 1.3	36 ± 3.3	26 ± 3.2
3333.0	16 ± 0.6	21 ± 3.7	29 ± 0.6	26 ± 3.5	30 ± 2.4
10000.0	13 ± 2.0	23 ± 2.0	30 ± 1.8	37 ± 3.5	24 ± 3.8
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[2]					719 ± 5.3
Positive Control[3]			635 ± 27.2	960 ± 28.6	
Positive Control[6]	1413 ± 13.8	1459 ± 8.6			

Experiment Number: **225498**

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

G06: Ames Summary Data

Test Compound: **Choline chloride**

CAS Number: **67-48-1**

Date Report Requested: **09/14/2018**

Time Report Requested: **22:01:57**

Strain: TA98

Dose (ug/Plate)	With 10% Hamster S9
Vehicle Control[1]	31 ± 1.8
100.0	32 ± 3.5
333.0	31 ± 3.2
1000.0	37 ± 2.4
3333.0	31 ± 4.1
10000.0	36 ± 1.3
Trial Summary	Negative
Positive Control[2]	1115 ± 16.0
Positive Control[3]	
Positive Control[6]	

LEGEND

Values given as Mean or Mean ± 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

** END OF REPORT **