

Experiment Number: **A24049**

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

**G06: Ames Summary Data**

Test Compound: **Berberine chloride**

CAS Number: **633-65-8**

Date Report Requested: **09/16/2018**

Time Report Requested: **14:05:23**

**NTP Study Number:**

A24049

**Study Result:**

Negative

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## G06: Ames Summary Data

Test Compound: Berberine chloride

CAS Number: 633-65-8

Date Report Requested: 09/16/2018

Time Report Requested: 14:05:23

## Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control <sup>1</sup>	86 ± 1.9	176 ± 7.0	149 ± 2.5	128 ± 7.8	167 ± 9.2
0.33	93 ± 8.5	148 ± 5.0			
1.0	107 ± 14.1	139 ± 3.5			
3.3	97 ± 2.7	145 ± 15.1	158 ± 13.2	137 ± 3.0	153 ± 12.6
10.0	91 ± 8.4	140 ± 3.1	159 ± 12.7	111 ± 13.5	156 ± 14.2
33.0	88 ± 8.1 <sup>s</sup>	134 ± 15.3	173 ± 15.2	141 ± 3.5	154 ± 5.8
100.0	63 ± 2.0 <sup>s</sup>	47 ± 2.6 <sup>s</sup>	150 ± 5.8	153 ± 4.0	184 ± 9.6
333.0			95 ± 5.5 <sup>s</sup>	104 ± 15.9 <sup>s</sup>	143 ± 5.0
1000.0			83 ± 9.1 <sup>s</sup>	76 ± 5.3 <sup>s</sup>	79 ± 4.3 <sup>s</sup>
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control <sup>2</sup>					340 ± 16.2
Positive Control <sup>3</sup>	681 ± 73.0	359 ± 16.4			
Positive Control <sup>4</sup>			660 ± 57.8		
Positive Control <sup>5</sup>					
Positive Control <sup>6</sup>				796 ± 40.3	

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**Strain: TA100**

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<b>Dose (ug/Plate)</b>	<b>With 30% Hamster S9</b>
Vehicle Control <sup>1</sup>	108 ± 4.2
0.33	
1.0	
3.3	94 ± 5.2
10.0	120 ± 6.6
33.0	131 ± 5.4
100.0	115 ± 5.5
333.0	116 ± 8.4 <sup>s</sup>
1000.0	71 ± 7.7 <sup>s</sup>
Trial Summary	Negative
Positive Control <sup>2</sup>	
Positive Control <sup>3</sup>	
Positive Control <sup>4</sup>	
Positive Control <sup>5</sup>	673 ± 34.7
Positive Control <sup>6</sup>	

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Test Compound: Berberine chloride

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## Strain: TA1535

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control <sup>1</sup>	8 ± 0.6	9 ± 1.7	8 ± 0.7	10 ± 1.0	5 ± 2.0
0.33	9 ± 1.5				
1.0	8 ± 1.5	9 ± 1.5			
3.3	6 ± 0.7	18 ± 2.0	4 ± 1.2	6 ± 2.8	8 ± 2.3
10.0	7 ± 1.5	9 ± 3.3	7 ± 1.5	10 ± 1.9	8 ± 0.3
20.0		15 ± 3.7			
33.0	8 ± 0.3	20 ± 1.2	5 ± 1.5	9 ± 1.9	5 ± 1.2
50.0		18 ± 3.1			
100.0	7 ± 1.5 <sup>s</sup>	10 ± 0.9 <sup>s</sup>	7 ± 2.7	7 ± 0.7	2 ± 1.2
333.0			5 ± 1.5 <sup>s</sup>	8 ± 1.3	6 ± 2.4
1000.0			1 ± 0.6 <sup>s</sup>	4 ± 1.5 <sup>s</sup>	3 ± 0.9 <sup>s</sup>
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control <sup>2</sup>					24 ± 3.0
Positive Control <sup>3</sup>	253 ± 21.3	153 ± 4.2			
Positive Control <sup>5</sup>					
Positive Control <sup>6</sup>			474 ± 84.3	107 ± 11.1	

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**G06: Ames Summary Data**

Test Compound: Berberine chloride

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**Strain: TA1535**

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<b>Dose (ug/Plate)</b>	<b>With 30% Hamster S9</b>
Vehicle Control <sup>1</sup>	10 ± 1.2
0.33	
1.0	
3.3	11 ± 2.5
10.0	9 ± 1.5
20.0	
33.0	10 ± 0.6
50.0	
100.0	9 ± 1.5
333.0	11 ± 0.9
1000.0	2 ± 1.9 <sup>s</sup>
Trial Summary	Negative
Positive Control <sup>2</sup>	
Positive Control <sup>3</sup>	
Positive Control <sup>5</sup>	44 ± 4.7
Positive Control <sup>6</sup>	

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Test Compound: Berberine chloride

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## Strain: TA97

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control <sup>1</sup>	87 ± 8.6	133 ± 7.2	132 ± 4.0	149 ± 9.7	152 ± 3.3
0.33	84 ± 4.9	128 ± 15.1			
1.0	83 ± 11.1	126 ± 7.9			
3.3	89 ± 4.7	118 ± 5.6	120 ± 4.3	130 ± 1.9	157 ± 4.1
10.0	92 ± 5.2	108 ± 6.1	137 ± 8.0	130 ± 5.4	138 ± 10.3
33.0	104 ± 9.3	94 ± 3.0	146 ± 8.7	164 ± 6.2	174 ± 4.5
100.0	35 ± 18.2 <sup>s</sup>	83 ± 7.4 <sup>s</sup>	148 ± 11.7	195 ± 9.3	144 ± 17.4
333.0			95 ± 11.3	62 ± 6.7 <sup>s</sup>	118 ± 10.5 <sup>s</sup>
1000.0			4 ± 4.0 <sup>s</sup>	6 ± 0.7 <sup>s</sup>	81 ± 14.9 <sup>s</sup>
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control <sup>4</sup>					458 ± 12.2
Positive Control <sup>6</sup>			1334 ± 183.4	763 ± 61.1	
Positive Control <sup>7</sup>	297 ± 44.8	398 ± 8.3			

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**G06: Ames Summary Data**

Test Compound: Berberine chloride

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**Strain: TA97**

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<b>Dose (ug/Plate)</b>	<b>With 30% Hamster S9</b>
Vehicle Control <sup>1</sup>	149 ± 4.3
0.33	
1.0	
3.3	131 ± 6.0
10.0	151 ± 2.8
33.0	137 ± 8.7
100.0	193 ± 15.2
333.0	81 ± 4.4 <sup>s</sup>
1000.0	24 ± 6.4 <sup>s</sup>
Trial Summary	Negative
Positive Control <sup>4</sup>	
Positive Control <sup>6</sup>	716 ± 65.9
Positive Control <sup>7</sup>	

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## G06: Ames Summary Data

Test Compound: Berberine chloride

CAS Number: 633-65-8

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## Strain: TA98

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9
Vehicle Control <sup>1</sup>	13 ± 0.6	12 ± 0.0	12 ± 2.3	15 ± 0.9	17 ± 0.9
0.33	11 ± 1.2	13 ± 2.8			
1.0	10 ± 1.2	11 ± 0.9	17 ± 0.3		
3.3	10 ± 0.3	14 ± 2.0	8 ± 1.5	14 ± 1.2	17 ± 3.5
10.0	12 ± 0.7	15 ± 2.2	11 ± 0.7	14 ± 1.5	14 ± 1.2
20.0			7 ± 2.3		
33.0	12 ± 1.2 <sup>s</sup>	28 ± 4.7	10 ± 2.5	10 ± 1.0	18 ± 2.0
50.0			7 ± 1.0		
100.0	6 ± 3.5 <sup>s</sup>	6 ± 0.3 <sup>s</sup>	6 ± 1.0 <sup>s</sup>	22 ± 2.9	20 ± 1.5 <sup>s</sup>
333.0				10 ± 1.5 <sup>s</sup>	8 ± 0.9 <sup>s</sup>
1000.0				0 ± 0.0 <sup>s</sup>	6 ± 1.9 <sup>s</sup>
Trial Summary	Negative	Equivocal	Negative	Negative	Negative
Positive Control <sup>2</sup>				101 ± 21.9	
Positive Control <sup>5</sup>					220 ± 32.1
Positive Control <sup>8</sup>	154 ± 3.2	83 ± 7.0	57 ± 3.2		



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**Strain: TA98**

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<b>Dose (ug/Plate)</b>	<b>With 10% Hamster S9</b>	<b>With 30% Hamster S9</b>
Vehicle Control <sup>1</sup>	17 ± 1.8	17 ± 0.3
0.33		
1.0		
3.3	13 ± 1.0	22 ± 0.9
10.0	17 ± 1.0	16 ± 0.3
20.0		
33.0	13 ± 0.3	16 ± 1.5
50.0		
100.0	15 ± 0.6	17 ± 1.5
333.0	11 ± 2.2	12 ± 2.0 <sup>s</sup>
1000.0	4 ± 0.9 <sup>s</sup>	4 ± 0.3 <sup>s</sup>
Trial Summary	Negative	Negative
Positive Control <sup>2</sup>	135 ± 7.2	
Positive Control <sup>5</sup>		314 ± 49.5
Positive Control <sup>8</sup>		

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### **LEGEND**

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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: Dimethyl Sulfoxide
- 2: 0.4 ug/Plate 2-Aminoanthracene
- 3: 0.5 ug/Plate Sodium Azide
- 4: 0.75 ug/Plate 2-Aminoanthracene
- 5: 1.0 ug/Plate 2-Aminoanthracene
- 6: 2.0 ug/Plate 2-Aminoanthracene
- 7: 24.0 ug/Plate 9-Aminoacridine
- 8: 1.0 ug/Plate 4-Nitro-O-Phenylenediamine
- s: Slight Toxicity

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