

Experiment Number: **A04292**

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

**G06: Ames Summary Data**

Test Compound: **2,3-Butanedione**

CAS Number: **431-03-8**

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

Time Report Requested: **15:12:22**

**NTP Study Number:**

A04292

**Study Result:**

Weakly Positive

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Date Report Requested: 09/15/2018  
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Strain: TA100

Dose (ug/Plate)	Without S9	With 5% Rat S9	With 5% Rat S9	With 10% Rat S9	With 10% Rat S9
Vehicle Control <sup>1</sup>	139 ± 5.0	100 ± 6.7	162 ± 6.4	103 ± 12.8	169 ± 7.8
10.0	138 ± 1.7		156 ± 0.6		157 ± 5.2
33.0	131 ± 6.8	105 ± 0.3	168 ± 5.8	98 ± 3.7	170 ± 7.0
66.0		119 ± 6.2	148 ± 0.0	101 ± 1.5	168 ± 5.8
100.0	138 ± 6.8	102 ± 1.5	155 ± 6.7	107 ± 11.5	165 ± 3.5
166.0		126 ± 9.1	167 ± 4.9	95 ± 7.7	156 ± 7.7
333.0	120 ± 9.3 <sup>s</sup>	142 ± 3.8	131 ± 1.8	139 ± 0.9	152 ± 9.6
666.0	79 ± 18.2 <sup>s</sup>				
1000.0					
1666.0					
Trial Summary	Negative	Equivocal	Negative	Equivocal	Negative
Positive Control <sup>2</sup>					
Positive Control <sup>3</sup>		919 ± 55.8	728 ± 48.9	811 ± 39.0	647 ± 29.7
Positive Control <sup>4</sup>	905 ± 20.3				
Positive Control <sup>5</sup>					

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## Strain: TA100

Dose (ug/Plate)	With 30% Rat S9	With 30% Rat S9	With 5% Hamster S9	With 5% Hamster S9	With 10% Hamster S9
Vehicle Control <sup>1</sup>	125 ± 12.1	110 ± 15.5	109 ± 9.3	167 ± 16.2	95 ± 1.7
10.0				158 ± 5.5	
33.0		113 ± 1.8	113 ± 9.0	161 ± 3.2	104 ± 6.2
66.0		117 ± 3.8	113 ± 5.9	163 ± 8.1	123 ± 3.5
100.0	166 ± 7.9	117 ± 1.8	129 ± 7.5	157 ± 1.2	111 ± 7.0
166.0		133 ± 5.7	139 ± 3.7	167 ± 9.7	111 ± 12.2
333.0	195 ± 5.8	139 ± 1.9	156 ± 8.2	118 ± 5.5	145 ± 11.1
666.0	95 ± 2.5				
1000.0	20 ± 3.2 <sup>s</sup>				
1666.0	0 ± 0.0 <sup>x</sup>				
Trial Summary	Equivocal	Equivocal	Equivocal	Negative	Equivocal
Positive Control <sup>2</sup>			819 ± 17.1	760 ± 68.3	560 ± 3.5
Positive Control <sup>3</sup>					
Positive Control <sup>4</sup>					
Positive Control <sup>5</sup>	394 ± 38.0	673 ± 41.4			

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Strain: TA100

Dose (ug/Plate)	With 10% Hamster S9	With 30% Hamster S9	With 30% Hamster S9
Vehicle Control <sup>1</sup>	159 ± 4.3	135 ± 6.1	104 ± 6.1
10.0	159 ± 0.3		
33.0	164 ± 3.0		103 ± 7.4
66.0	168 ± 4.9		100 ± 7.5
100.0	167 ± 8.3	164 ± 7.0	95 ± 5.0
166.0	155 ± 6.0		107 ± 9.8
333.0	131 ± 9.5	179 ± 13.0	111 ± 7.8
666.0		137 ± 4.3	
1000.0		77 ± 5.5 <sup>s</sup>	
1666.0		0 ± 0.0 <sup>x</sup>	
Trial Summary	Negative	Equivocal	Negative
Positive Control <sup>2</sup>	550 ± 23.1		
Positive Control <sup>3</sup>		508 ± 8.4	548 ± 10.8
Positive Control <sup>4</sup>			
Positive Control <sup>5</sup>			

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Strain: TA1535

Dose (ug/Plate)	Without S9	With 5% Rat S9	With 10% Rat S9	With 30% Rat S9	With 5% Hamster S9
Vehicle Control <sup>1</sup>	19 ± 0.3	10 ± 0.9	13 ± 3.2	15 ± 0.9	10 ± 1.5
10.0	16 ± 1.0	9 ± 0.3	11 ± 1.2		9 ± 1.5
33.0	11 ± 1.0	10 ± 0.9	11 ± 1.5	16 ± 1.2	9 ± 0.3
66.0		11 ± 1.3	11 ± 0.3	13 ± 2.6	8 ± 0.9
100.0	13 ± 3.5	9 ± 0.9	8 ± 0.3	14 ± 1.0	9 ± 1.2
166.0		10 ± 0.7	10 ± 1.0	13 ± 2.6	8 ± 1.2
333.0	8 ± 1.2	7 ± 2.2	6 ± 0.7	20 ± 3.0	11 ± 2.0
666.0	10 ± 1.9				
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control <sup>3</sup>					347 ± 25.2
Positive Control <sup>5</sup>		314 ± 11.6	130 ± 8.1		
Positive Control <sup>4</sup>	887 ± 36.0				
Positive Control <sup>6</sup>				210 ± 18.0	

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Strain: TA1535

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Dose (ug/Plate)	With 10% Hamster S9	With 30% Hamster S9
Vehicle Control <sup>1</sup>	12 ± 1.5	15 ± 0.9
10.0	12 ± 1.5	
33.0	9 ± 1.2	12 ± 3.6
66.0	12 ± 1.2	13 ± 2.8
100.0	12 ± 1.9	10 ± 1.3
166.0	10 ± 2.0	11 ± 1.8
333.0		13 ± 0.0
666.0		
Trial Summary	Negative	Negative
Positive Control <sup>3</sup>	247 ± 19.6	
Positive Control <sup>5</sup>		264 ± 8.2
Positive Control <sup>4</sup>		
Positive Control <sup>6</sup>		

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Strain: TA97

Dose (ug/Plate)	Without S9	Without S9	With 5% Rat S9	With 10% Rat S9	With 30% Rat S9
Vehicle Control <sup>1</sup>	138 ± 4.4	147 ± 8.7	158 ± 4.9	181 ± 3.5	200 ± 11.2
10.0	162 ± 5.8	175 ± 14.2	201 ± 5.8	171 ± 12.1	226 ± 6.0
33.0	187 ± 5.7	181 ± 4.1	221 ± 14.5	208 ± 3.8	254 ± 6.5
100.0	205 ± 9.2	227 ± 7.1	269 ± 16.3	235 ± 9.3	284 ± 18.7
333.0	237 ± 12.5	235 ± 7.5	284 ± 4.4	267 ± 5.1	282 ± 9.1
666.0	34 ± 16.4 <sup>s</sup>	155 ± 18.1 <sup>s</sup>	87 ± 11.9 <sup>s</sup>	226 ± 17.8 <sup>s</sup>	
1000.0					40 ± 16.9 <sup>s</sup>
Trial Summary	Weakly Positive	Weakly Positive	Weakly Positive	Weakly Positive	Weakly Positive
Positive Control <sup>2</sup>					
Positive Control <sup>3</sup>			620 ± 20.9	630 ± 14.5	
Positive Control <sup>5</sup>					628 ± 10.8
Positive Control <sup>7</sup>	487 ± 28.0	512 ± 8.1			

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Strain: TA97

Dose (ug/Plate)	With 30% Rat S9	With 5% Hamster S9	With 10% Hamster S9	With 30% Hamster S9	With 30% Hamster S9
Vehicle Control <sup>1</sup>	167 ± 4.3	161 ± 4.3	165 ± 7.4	167 ± 3.9	174 ± 7.6
10.0	176 ± 3.4	183 ± 4.7	156 ± 7.0	169 ± 10.9	182 ± 3.5
33.0	206 ± 10.3	209 ± 10.2	188 ± 1.0	178 ± 10.3	206 ± 7.0
100.0	227 ± 39.7	213 ± 1.5	212 ± 7.5	226 ± 14.0	250 ± 4.8
333.0	288 ± 1.0	211 ± 7.9	268 ± 15.8	270 ± 6.7	274 ± 3.7
666.0	166 ± 24.2 <sup>s</sup>	60 ± 17.5 <sup>s</sup>	61 ± 12.2 <sup>s</sup>		145 ± 22.0 <sup>s</sup>
1000.0				50 ± 5.0 <sup>s</sup>	
Trial Summary	Weakly Positive	Equivocal	Weakly Positive	Weakly Positive	Weakly Positive
Positive Control <sup>2</sup>		701 ± 7.6	655 ± 10.8		
Positive Control <sup>3</sup>				690 ± 24.8	589 ± 22.5
Positive Control <sup>5</sup>	548 ± 17.7				
Positive Control <sup>7</sup>					



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Strain: TA98

Dose (ug/Plate)	Without S9	With 30% Rat S9	With 30% Hamster S9
Vehicle Control <sup>1</sup>	25 ± 7.1	23 ± 3.1	20 ± 2.9
10.0	25 ± 4.4		
33.0	22 ± 2.2		
100.0	23 ± 3.6	22 ± 1.0	24 ± 5.8
333.0	20 ± 1.3	23 ± 3.1	21 ± 4.2
666.0	9 ± 4.5 <sup>s</sup>	18 ± 2.7	19 ± 1.7
1000.0		14 ± 2.6 <sup>s</sup>	14 ± 2.6 <sup>s</sup>
1666.0		0 ± 0.0 <sup>x</sup>	0 ± 0.0 <sup>x</sup>
Trial Summary	Negative	Negative	Negative
Positive Control <sup>3</sup>			661 ± 31.9
Positive Control <sup>8</sup>	394 ± 12.7		
Positive Control <sup>5</sup>		495 ± 11.3	

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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: Water

2: 1.0 ug/Plate 2-Aminoanthracene

3: 2.0 ug/Plate 2-Aminoanthracene

4: 5.0 ug/Plate Sodium Azide

5: 5.0 ug/Plate 2-Aminoanthracene

6: 10.0 ug/Plate 2-Aminoanthracene

7: 50.0 ug/Plate 9-Aminoacridine

8: 2.5 ug/Plate 4-Nitro-O-Phenylenediamine

s: Slight Toxicity

x: Slight Toxicity and Precipitate

\*\* END OF REPORT \*\*