

Experiment Number: A50684

Test Type: Genetic Toxicology - Bacterial  
Mutagenicity

**G06: Ames Summary Data**

Test Compound: Annatto

CAS Number: 1393-63-1

Date Report Requested: 09/17/2018

Time Report Requested: 03:55:21

**NTP Study Number:**

A50684

**Study Result:**

Positive

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Date Report Requested: 09/17/2018  
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Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	With 30% Rat S9	With 30% Rat S9	With 30% Hamster S9
Vehicle Control <sup>1</sup>	105 ± 6.0	106 ± 6.3	105 ± 10.5	117 ± 5.6	94 ± 11.8
100.0	111 ± 5.3	106 ± 4.4	104 ± 7.5	110 ± 0.9	132 ± 19.0
333.0	125 ± 4.7	122 ± 1.7	122 ± 11.4	145 ± 4.0	143 ± 12.5
1000.0	170 ± 6.0 <sup>P</sup>	168 ± 9.3 <sup>P</sup>	154 ± 5.8 <sup>P</sup>	169 ± 9.3 <sup>P</sup>	174 ± 11.5 <sup>P</sup>
3333.0	196 ± 4.0 <sup>P</sup>	177 ± 5.8 <sup>P</sup>	167 ± 6.7 <sup>P</sup>	194 ± 5.8 <sup>P</sup>	192 ± 3.8 <sup>P</sup>
10000.0	224 ± 9.7 <sup>P</sup>	233 ± 11.6 <sup>P</sup>	221 ± 9.4 <sup>P</sup>	233 ± 7.2 <sup>P</sup>	228 ± 6.2 <sup>P</sup>
Trial Summary	Positive	Positive	Positive	Positive	Positive
Positive Control <sup>2</sup>					647 ± 20.6
Positive Control <sup>3</sup>	925 ± 27.1	865 ± 23.1			
Positive Control <sup>4</sup>			539 ± 22.3	517 ± 14.9	

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Strain: TA100

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Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control <sup>1</sup>	111 ± 3.8
100.0	111 ± 3.3
333.0	147 ± 11.9
1000.0	189 ± 2.7 <sup>P</sup>
3333.0	194 ± 10.7 <sup>P</sup>
10000.0	228 ± 9.9 <sup>P</sup>
Trial Summary	Positive
Positive Control <sup>2</sup>	535 ± 17.0
Positive Control <sup>3</sup>	
Positive Control <sup>4</sup>	

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Strain: TA1535

Dose (ug/Plate)	Without S9	With 30% Rat S9	With 30% Hamster S9
Vehicle Control <sup>1</sup>	8 ± 1.2	13 ± 3.5	19 ± 2.3
100.0	9 ± 0.0	15 ± 2.3	14 ± 2.3
333.0	8 ± 2.2	14 ± 0.7	8 ± 0.7
1000.0	6 ± 1.2 <sup>P</sup>	11 ± 2.1 <sup>P</sup>	8 ± 1.5 <sup>P</sup>
3333.0	6 ± 1.2 <sup>P</sup>	12 ± 0.3 <sup>P</sup>	14 ± 3.2 <sup>P</sup>
10000.0	6 ± 0.6 <sup>P</sup>	9 ± 1.7 <sup>P</sup>	12 ± 1.3 <sup>P</sup>
Trial Summary	Negative	Negative	Negative
Positive Control <sup>4</sup>			121 ± 4.3
Positive Control <sup>3</sup>	910 ± 30.8		
Positive Control <sup>5</sup>		111 ± 7.2	

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Strain: TA97

Dose (ug/Plate)	Without S9	With 30% Rat S9	With 30% Hamster S9
Vehicle Control <sup>1</sup>	132 ± 8.8	197 ± 13.6	189 ± 19.2
100.0	144 ± 14.5	178 ± 16.0	197 ± 0.7
333.0	120 ± 4.9	166 ± 5.3	165 ± 6.7
1000.0	127 ± 12.0 <sup>P</sup>	157 ± 16.5 <sup>P</sup>	169 ± 2.7 <sup>P</sup>
3333.0	147 ± 11.8 <sup>P</sup>	167 ± 10.2 <sup>P</sup>	178 ± 20.9 <sup>P</sup>
10000.0	130 ± 16.5 <sup>P</sup>	195 ± 10.5 <sup>P</sup>	194 ± 3.2 <sup>P</sup>
Trial Summary	Negative	Negative	Negative
Positive Control <sup>2</sup>			596 ± 10.1
Positive Control <sup>4</sup>		533 ± 10.9	
Positive Control <sup>6</sup>	543 ± 19.5		

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Strain: TA98

Dose (ug/Plate)	Without S9	With 30% Rat S9	With 30% Hamster S9
Vehicle Control <sup>1</sup>	9 ± 1.7	16 ± 1.7	23 ± 2.5
100.0	10 ± 0.9	16 ± 1.2	13 ± 3.2
333.0	9 ± 1.8	12 ± 0.9	14 ± 1.0
1000.0	7 ± 0.7 <sup>P</sup>	11 ± 3.4 <sup>P</sup>	16 ± 4.0 <sup>P</sup>
3333.0	6 ± 0.3 <sup>P</sup>	16 ± 2.7 <sup>P</sup>	26 ± 1.8 <sup>P</sup>
10000.0	8 ± 1.5 <sup>P</sup>	11 ± 0.6 <sup>P</sup>	21 ± 1.7 <sup>P</sup>
Trial Summary	Negative	Negative	Negative
Positive Control <sup>2</sup>			510 ± 20.9
Positive Control <sup>7</sup>	357 ± 8.2		
Positive Control <sup>4</sup>		412 ± 9.3	

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CAS Number: 1393-63-1

**Strain: TA102**

<b>Dose (ug/Plate)</b>	<b>Without S9</b>	<b>Without S9</b>	<b>With 30% Rat S9</b>	<b>With 30% Rat S9</b>	<b>With 30% Hamster S9</b>
Vehicle Control <sup>1</sup>	248 ± 17.9	244 ± 20.8	315 ± 14.0	349 ± 17.6	353 ± 7.2
100.0	291 ± 4.2	272 ± 8.6	343 ± 23.2	380 ± 12.3	341 ± 17.9
333.0	307 ± 13.9	289 ± 5.7	380 ± 10.3	413 ± 5.5	369 ± 28.3
1000.0	344 ± 18.9 <sup>P</sup>	356 ± 22.7 <sup>P</sup>	419 ± 6.7 <sup>P</sup>	488 ± 5.2 <sup>P</sup>	433 ± 17.1 <sup>P</sup>
3333.0	384 ± 6.0 <sup>P</sup>	464 ± 22.3 <sup>P</sup>	505 ± 14.4 <sup>P</sup>	529 ± 12.1 <sup>P</sup>	478 ± 11.5 <sup>P</sup>
10000.0	405 ± 5.2 <sup>P</sup>	446 ± 27.5 <sup>P</sup>	597 ± 11.0 <sup>P</sup>	563 ± 14.5 <sup>P</sup>	547 ± 20.4 <sup>P</sup>
Trial Summary	Weakly Positive	Weakly Positive	Weakly Positive	Weakly Positive	Weakly Positive
Positive Control <sup>8</sup>	876 ± 18.8	934 ± 11.8			
Positive Control <sup>5</sup>			883 ± 46.4	874 ± 17.5	912 ± 21.1

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Strain: TA102

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Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control <sup>1</sup>	357 ± 17.4
100.0	371 ± 28.2
333.0	439 ± 20.8
1000.0	511 ± 8.1 <sup>P</sup>
3333.0	563 ± 8.2 <sup>P</sup>
10000.0	572 ± 12.9 <sup>P</sup>
Trial Summary	Weakly Positive
Positive Control <sup>8</sup>	
Positive Control <sup>5</sup>	938 ± 14.8

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Strain: TA104

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control <sup>1</sup>	343 ± 17.7	298 ± 15.0	395 ± 10.4	440 ± 29.0	375 ± 18.7
100.0	352 ± 22.6	288 ± 5.8	410 ± 1.2	408 ± 4.8	405 ± 9.1
333.0	343 ± 22.5	310 ± 38.7	425 ± 49.8	456 ± 25.4	447 ± 18.7
1000.0	392 ± 4.7 <sup>P</sup>	312 ± 7.9 <sup>P</sup>	422 ± 23.6 <sup>P</sup>	453 ± 18.0 <sup>P</sup>	429 ± 32.1 <sup>P</sup>
3333.0	373 ± 14.0 <sup>P</sup>	293 ± 12.0 <sup>P</sup>	412 ± 45.4 <sup>P</sup>	435 ± 30.7 <sup>P</sup>	367 ± 56.5 <sup>P</sup>
10000.0	330 ± 23.8 <sup>P</sup>	314 ± 47.1 <sup>P</sup>	377 ± 16.6 <sup>P</sup>	420 ± 28.4 <sup>P</sup>	425 ± 9.8 <sup>P</sup>
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control <sup>5</sup>			851 ± 21.3	819 ± 23.8	916 ± 33.3
Positive Control <sup>9</sup>	807 ± 47.0	752 ± 22.2			

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Strain: TA104

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Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control <sup>1</sup>	437 ± 16.5
100.0	442 ± 27.8
333.0	527 ± 34.6
1000.0	497 ± 21.0 <sup>P</sup>
3333.0	452 ± 24.3 <sup>P</sup>
10000.0	492 ± 39.7 <sup>P</sup>
Trial Summary	Negative
Positive Control <sup>5</sup>	860 ± 18.8
Positive Control <sup>9</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: 2.0 ug/Plate 2-Aminoanthracene
- 3: 5.0 ug/Plate Sodium Azide
- 4: 5.0 ug/Plate 2-Aminoanthracene
- 5: 10.0 ug/Plate 2-Aminoanthracene
- 6: 50.0 ug/Plate 9-Aminoacridine
- 7: 2.5 ug/Plate 4-Nitro-O-Phenylenediamine
- 8: 0.5 ug/Plate Mitomycin-C
- 9: 250.0 ug/Plate Methyl Methane Sulfonate
- p: Precipitate

\*\* END OF REPORT \*\*