

Experiment Number: **A82879**

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

**G06: Ames Summary Data**

Test Compound: **Annatto**

CAS Number: **1393-63-1**

Date Report Requested: **09/18/2018**

Time Report Requested: **00:17:10**

**NTP Study Number:**

A82879

**Study Result:**

Positive

Experiment Number: A82879  
 Test Type: Genetic Toxicology - Bacterial  
 Mutagenicity

G06: Ames Summary Data  
 Test Compound: Annatto  
 CAS Number: 1393-63-1

Date Report Requested: 09/18/2018  
 Time Report Requested: 00:17:10

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>	100 ± 10.0	109 ± 3.8	125 ± 1.2	120 ± 8.2	120 ± 2.1
100.0	98 ± 1.5	115 ± 4.0	138 ± 6.3	131 ± 9.3	128 ± 2.3
333.0	119 ± 5.5	132 ± 3.2	163 ± 19.1	146 ± 10.3	170 ± 3.9
1000.0	145 ± 7.8 <sup>p</sup>	146 ± 6.4 <sup>p</sup>	214 ± 8.4 <sup>p</sup>	164 ± 6.8 <sup>p</sup>	181 ± 7.8 <sup>p</sup>
3333.0	153 ± 7.0 <sup>p</sup>	188 ± 1.5 <sup>p</sup>	247 ± 13.3 <sup>p</sup>	198 ± 6.4 <sup>p</sup>	230 ± 5.2 <sup>p</sup>
10000.0	207 ± 4.5 <sup>p</sup>	220 ± 2.6 <sup>p</sup>	243 ± 21.7 <sup>p</sup>	238 ± 6.0 <sup>p</sup>	247 ± 9.1 <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>			421 ± 137.4	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>	101 ± 10.6
100.0	102 ± 3.2
333.0	152 ± 3.2
1000.0	153 ± 8.7 <sup>P</sup>
3333.0	169 ± 3.2 <sup>P</sup>
10000.0	206 ± 8.7 <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>	7 ± 2.4	19 ± 1.5	21 ± 3.4
100.0	11 ± 0.7	17 ± 2.3	20 ± 0.7
333.0	10 ± 1.2	12 ± 1.5	17 ± 3.3
1000.0	5 ± 0.3 <sup>P</sup>	13 ± 0.9 <sup>P</sup>	14 ± 2.2 <sup>P</sup>
3333.0	7 ± 0.0 <sup>P</sup>	11 ± 0.3 <sup>P</sup>	10 ± 1.5 <sup>P</sup>
10000.0	7 ± 0.7 <sup>P</sup>	10 ± 0.6 <sup>P</sup>	13 ± 3.0 <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>	143 ± 8.7	162 ± 17.9	154 ± 6.5
100.0	139 ± 10.2	185 ± 0.0	183 ± 8.2
333.0	153 ± 14.3	164 ± 3.5	163 ± 5.8
1000.0	144 ± 9.5 <sup>P</sup>	151 ± 8.5 <sup>P</sup>	191 ± 6.6 <sup>P</sup>
3333.0	114 ± 3.5 <sup>P</sup>	157 ± 6.4 <sup>P</sup>	183 ± 6.6 <sup>P</sup>
10000.0	144 ± 12.5 <sup>P</sup>	156 ± 19.7 <sup>P</sup>	156 ± 16.8 <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>	19 ± 3.2	23 ± 2.7	22 ± 3.2
100.0	21 ± 2.0	19 ± 0.0	19 ± 0.3
333.0	19 ± 3.4	15 ± 1.8	19 ± 4.2
1000.0	18 ± 3.8 <sup>P</sup>	21 ± 3.5 <sup>P</sup>	18 ± 3.2 <sup>P</sup>
3333.0	19 ± 3.8 <sup>P</sup>	25 ± 1.8 <sup>P</sup>	20 ± 4.8 <sup>P</sup>
10000.0	14 ± 3.3 <sup>P</sup>	18 ± 4.4 <sup>P</sup>	16 ± 1.2 <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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## Strain: TA102

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control <sup>1</sup>	224 ± 11.1	255 ± 11.8	405 ± 8.5	356 ± 22.5	423 ± 10.7
100.0	248 ± 16.5	248 ± 32.9	397 ± 33.5	399 ± 37.6	428 ± 8.8
333.0	264 ± 63.5	286 ± 29.6	369 ± 21.9	385 ± 21.6	439 ± 8.3
1000.0	287 ± 32.9 <sup>p</sup>	312 ± 51.2 <sup>p</sup>	390 ± 18.0 <sup>p</sup>	346 ± 30.2 <sup>p</sup>	390 ± 23.4 <sup>p</sup>
3333.0	266 ± 17.6 <sup>p</sup>	276 ± 10.0 <sup>p</sup>	396 ± 14.7 <sup>p</sup>	325 ± 31.2 <sup>p</sup>	376 ± 19.0 <sup>p</sup>
10000.0	231 ± 17.0 <sup>p</sup>	250 ± 33.9 <sup>p</sup>	396 ± 22.0 <sup>p</sup>	348 ± 33.3 <sup>p</sup>	373 ± 25.8 <sup>p</sup>
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control <sup>8</sup>	876 ± 18.8	868 ± 60.0			
Positive Control <sup>5</sup>			874 ± 17.5	883 ± 46.4	938 ± 14.8

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Date Report Requested: 09/18/2018  
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Strain: TA102

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Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control <sup>1</sup>	375 ± 23.7
100.0	356 ± 21.5
333.0	355 ± 22.3
1000.0	404 ± 30.9 <sup>P</sup>
3333.0	386 ± 29.9 <sup>P</sup>
10000.0	362 ± 7.2 <sup>P</sup>
Trial Summary	Negative
Positive Control <sup>8</sup>	
Positive Control <sup>5</sup>	912 ± 21.1



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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>	347 ± 22.1	340 ± 13.2	374 ± 33.3	418 ± 9.5	432 ± 8.3
100.0	400 ± 8.1	331 ± 13.1	402 ± 13.8	434 ± 20.9	410 ± 6.0
333.0	375 ± 24.4	360 ± 7.6	422 ± 6.4	419 ± 9.7	434 ± 32.5
1000.0	359 ± 17.8 <sup>p</sup>	341 ± 16.2 <sup>p</sup>	400 ± 40.0 <sup>p</sup>	359 ± 15.4 <sup>p</sup>	414 ± 26.9 <sup>p</sup>
3333.0	330 ± 60.4 <sup>p</sup>	311 ± 24.6 <sup>p</sup>	379 ± 20.2 <sup>p</sup>	401 ± 37.4 <sup>p</sup>	423 ± 6.7 <sup>p</sup>
10000.0	398 ± 22.5 <sup>p</sup>	357 ± 27.7 <sup>p</sup>	397 ± 21.4 <sup>p</sup>	422 ± 35.8 <sup>p</sup>	424 ± 19.2 <sup>p</sup>
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control <sup>5</sup>			851 ± 21.3	835 ± 35.6	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>	423 ± 7.1
100.0	446 ± 27.4
333.0	388 ± 10.7
1000.0	427 ± 57.8 <sup>P</sup>
3333.0	432 ± 28.1 <sup>P</sup>
10000.0	437 ± 21.4 <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 \*\*