

Experiment Number: **G88205C**

Test Type: **Genetic Toxicology - In Vitro
Micronucleus**

G03: In Vitro Micronucleus Summary Data

Test Compound: **Glyphosate isopropylamine salt|Distilled Water**

Date Report Requested: **11/16/2021**

Time Report Requested: **11:27:11**

NTP Study Number:

G88205C

Cell Type:

TK6

Study Result:

Positive

Experiment Number: G88205C

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MicronucleusG03: In Vitro Micronucleus Summary Data
Test Compound: Glyphosate isopropylamine salt|Distilled Water

Date Report Requested: 11/16/2021

Time Report Requested: 11:27:11

Duration: 4 h; Activation: Without S9

Concentration (mM)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control ¹	100.0	3.55	1.0	0.976 ± 0.050	
0.6	74.5	3.87	1.1	2.820 ± 2.160	1.0000
0.86	73.9	3.93	1.1	0.733 ± 0.048	1.0000
1.21	93.4	3.93	1.1	0.680 ± 0.087	1.0000
1.71	97.9	3.9	1.1	0.787 ± 0.112	1.0000
2.1	92.8	3.83	1.1	0.740 ± 0.145	1.0000
2.57	99.2	3.53	1.0	0.907 ± 0.238	1.0000
3.14	94.7	3.9	1.1	0.780 ± 0.170	1.0000
3.85	99.4	3.63	1.0	0.820 ± 0.060	1.0000
4.71	94.9	4.57	1.3	0.933 ± 0.047	1.0000
5.77	87.1	5.53	1.6	0.760 ± 0.153	1.0000
7.07	79.7	6.97	2.0	1.027 ± 0.082	1.0000
10	63.4	13.13	3.7	1.787 ± 0.191	0.2748
Trend p-Value				0.5289	
VIN ²	18.1	54.95	15.5	4.738 ± 0.524	< 0.001 *
Trial Summary: Negative					

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Date Report Requested: 11/16/2021

Test Type: Genetic Toxicology - In Vitro
Micronucleus

Time Report Requested: 11:27:11

Duration: 24 h; Activation: Without S9

Concentration (mM)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	Mean \pm SEM	p-Value
	Mean	Mean	Mean		
Vehicle Control ¹	100.0	1.91	1.0	0.897 \pm 0.060	
0.6	110.1	2.3	1.2	0.787 \pm 0.093	1.0000
0.86	106.9	2.63	1.4	1.113 \pm 0.085	0.3304
1.21	106.2	2.27	1.2	0.800 \pm 0.092	1.0000
1.71	106.8	2.53	1.3	1.073 \pm 0.085	0.6364
2.1	101.7	2.77	1.4	1.093 \pm 0.064	0.3462
2.57	100.4	3.63	1.9	1.180 \pm 0.170	0.3152
3.14	85.4	4.7	2.5	1.733 \pm 0.294	0.0168 *
3.85	72.6	7.97	4.2	2.550 \pm 0.510	
4.71	59.6	14.03	7.3	3.960 \pm 0.330	
5.77	44.4	22.5	11.8	5.450 \pm 0.860	
7.07	28.5	37.57	19.7	10.800 \pm 2.010	
10	12.1	65.17	34.1	9.400 \pm 0.270	
Trend p-Value				< 0.001 *	
VIN ³	55.9	24.85	13.0	5.515 \pm 0.429	0.0010 *

Trial Summary: Weakly Positive

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Date Report Requested: 11/16/2021

Test Type: Genetic Toxicology - In Vitro
Micronucleus

Time Report Requested: 11:27:11

Duration: 24 h; Activation: Without S9

Concentration (mM)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control ¹	100.0	2.62	1.0	1.015 ± 0.034	
0.6	103.0	2.3	0.9	0.813 ± 0.105	1.0000
0.86	101.7	2.3	0.9	0.673 ± 0.029	1.0000
1.21	98.0	2.43	0.9	0.880 ± 0.064	1.0000
1.71	100.6	2.83	1.1	1.307 ± 0.094	1.0000
2.1	99.5	2.5	1.0	1.513 ± 0.093	0.5012
2.57	99.1	3.33	1.3	1.853 ± 0.151	0.2173
3.14	86.0	4.13	1.6	2.207 ± 0.111	0.1018
3.85	68.5	4.97	1.9	2.640 ± 0.120	0.0352
4.71	67.4	7.0	2.7	3.727 ± 0.236	0.0121 *
5.77	60.6	9.87	3.8	4.767 ± 0.357	0.0037 *
7.07	48.1	13.73	5.2	5.100 ± 0.140	
10	31.9	25.0	9.5	7.250 ± 0.190	
Trend p-Value				< 0.001 *	
VIN ⁴	62.4	7.9	3.0	7.405 ± 0.344	0.0010 *

Trial Summary: Positive

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Date Report Requested: 11/16/2021

Test Type: Genetic Toxicology - In Vitro
Micronucleus

Time Report Requested: 11:27:11

Duration: 4 h; Activation: With 1% Rat S9

Concentration (mM)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control ¹	100.0	1.86	1.0	0.915 ± 0.044	
0.6	95.8	2.37	1.3	0.953 ± 0.064	1.0000
0.86	93.3	2.03	1.1	1.267 ± 0.307	1.0000
1.21	90.3	2.2	1.2	0.947 ± 0.255	1.0000
1.71	92.2	2.1	1.1	1.173 ± 0.170	0.6899
2.1	91.1	2.27	1.2	1.127 ± 0.082	0.6899
2.57	94.4	2.7	1.5	1.573 ± 0.312	0.0325
3.14	88.4	3.2	1.7	1.360 ± 0.174	0.1205
3.85	81.0	4.23	2.3	0.920 ± 0.174	1.0000
4.71	76.9	5.3	2.8	1.427 ± 0.208	0.0677
5.77	61.5	10.43	5.6	1.570 ± 0.250	
7.07	49.2	16.33	8.8	2.430 ± 0.350	
10	24.3	43.1	23.2	6.990 ± 0.520	
Trend p-Value				< 0.001 *	
CPA ⁵	32.0	38.73	20.8	6.940 ± 0.888	0.0010 *

Trial Summary: Negative

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LEGEND

MN = Micronuclei, CAS = Chemical abstract registry

For the 4 h chemical exposures with and without S9, the medium with test article (and S9, if present) is changed after 4 h and replaced with fresh medium without test article or S9, and cells are cultured for an additional 20 h to achieve a total culture time of 24 h

Values given as Mean or Mean \pm Standard Error Mean

Statistical analysis only performed on: % MN

Pairwise comparison with the vehicle control; values are significant at $P \leq 0.025$ by Dunn's test

Positive control: pairwise comparison with the vehicle control; values are significant at $P \leq 0.05$ by Mann Whitney U test

Apoptotic and necrotic cells are detected in the assay as ethidium monoazide (EMA)-positive events

Concentration-related trend; significant at $P \leq 0.025$ by Jonckheere's test

* Statistically significant pairwise or trend test

The number of wells per concentration of test article = 3

1: Vehicle Control: Distilled Water

2: Positive Control: 3 ng/mL Vinblastine sulfate

3: Positive Control: 0.5 ng/mL Vinblastine sulfate

4: Positive Control: 0.75 ng/mL Vinblastine sulfate

5: Positive Control: 3 ug/mL Cyclophosphamide monohydrate

**** END OF REPORT ****