

Experiment Number: **G18027C**

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

**G03: In Vitro Micronucleus Summary Data**

Test Compound: **Roundup Custom|Distilled Water**

Date Report Requested: **09/24/2021**

Time Report Requested: **14:16:06**

**NTP Study Number:**

G18027C

**Cell Type:**

TK6

**Study Result:**

Weakly Positive

Experiment Number: G18027C

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Date Report Requested: 09/24/2021

Test Type: Genetic Toxicology - In Vitro  
Micronucleus

Test Compound: Roundup Custom|Distilled Water

Time Report Requested: 14:16:06

Duration: 4 h; Activation: Without S9

Concentration (dilution)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control <sup>1</sup>	100.0	4.4	1.0	0.606 ± 0.035	
0.000605	93.5	4.37	1.0	0.520 ± 0.081	1.0000
0.000855	94.2	4.37	1.0	0.500 ± 0.131	1.0000
0.00121	94.5	4.13	0.9	0.640 ± 0.070	1.0000
0.001711	99.3	4.3	1.0	0.613 ± 0.122	1.0000
0.002095	97.4	4.77	1.1	0.440 ± 0.020	1.0000
0.002566	89.4	4.97	1.1	0.627 ± 0.140	1.0000
0.003143	88.3	5.53	1.3	0.680 ± 0.058	1.0000
0.003849	81.3	6.67	1.5	0.540 ± 0.106	1.0000
0.004714	74.6	7.03	1.6	0.820 ± 0.090	0.4965
0.005774	73.4	7.97	1.8	0.933 ± 0.037	0.0869
0.007071	60.8	9.73	2.2	0.993 ± 0.196	0.2528
0.01	61.1	12.5	2.8	2.127 ± 0.686	0.0186 *
Trend p-Value				< 0.001 *	
VIN <sup>2</sup>	64.9	13.83	3.1	2.415 ± 0.234	0.0010 *

Trial Summary: Weakly Positive

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Concentration (dilution)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control <sup>1</sup>	100.0	1.31	1.0	0.589 ± 0.045	
0.000605	98.0	1.7	1.3	0.320 ± 0.087	1.0000
0.000855	92.4	1.4	1.1	0.293 ± 0.058	1.0000
0.00121	96.8	1.47	1.1	0.427 ± 0.029	1.0000
0.001711	86.4	1.4	1.1	0.420 ± 0.061	1.0000
0.002095	87.7	1.63	1.2	0.427 ± 0.047	1.0000
0.002566	90.5	1.4	1.1	0.400 ± 0.058	1.0000
0.003143	81.5	1.8	1.4	0.340 ± 0.012	1.0000
0.003849	80.6	2.2	1.7	0.340 ± 0.031	1.0000
0.004714	77.4	2.57	2.0	0.467 ± 0.047	1.0000
0.005774	78.3	2.83	2.2	0.393 ± 0.052	1.0000
0.007071	72.8	3.83	2.9	0.387 ± 0.041	1.0000
0.01	68.0	4.87	3.7	0.580 ± 0.023	1.0000
Trend p-Value				0.9808	
VIN <sup>2</sup>	60.5	9.48	7.2	7.230 ± 1.419	0.0010 *

Trial Summary: Negative

Experiment Number: G18027C

## G03: In Vitro Micronucleus Summary Data

Date Report Requested: 09/24/2021

Test Type: Genetic Toxicology - In Vitro  
Micronucleus

Test Compound: Roundup Custom|Distilled Water

Time Report Requested: 14:16:06

Duration: 24 h; Activation: Without S9

Concentration (dilution)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control <sup>1</sup>	100.0	4.13	1.0	0.662 ± 0.047	
0.000605	107.2	5.47	1.3	0.500 ± 0.000	1.0000
0.000855	99.6	4.8	1.2	0.593 ± 0.059	1.0000
0.00121	89.4	5.7	1.4	0.833 ± 0.167	1.0000
0.001711	82.8	7.13	1.7	1.107 ± 0.177	0.2698
0.002095	77.5	8.87	2.1	1.713 ± 0.210	0.0460
0.002566	72.4	11.1	2.7	2.040 ± 0.133	0.0205 *
0.003143	60.1	14.63	3.5	3.173 ± 0.310	0.0039 *
0.003849	46.6	20.13	4.9	5.530 ± 0.580	
0.004714	38.9	28.83	7.0	6.990 ± 0.300	
0.005774	32.4	38.17	9.2	7.470 ± 0.630	
0.007071	21.6	55.2	13.4	9.750 ± 1.180	
0.01	5.7	78.27	19.0	39.340 ± 12.310	
Trend p-Value				< 0.001 *	
VIN <sup>3</sup>	58.9	20.88	5.1	2.390 ± 0.182	0.0010 *

Trial Summary: Positive

Experiment Number: G18027C

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Micronucleus

Test Compound: Roundup Custom|Distilled Water

Time Report Requested: 14:16:06

Duration: 24 h; Activation: Without S9

Concentration (dilution)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control <sup>1</sup>	100.0	1.84	1.0	0.212 ± 0.015	
0.00023	108.0	1.87	1.0	0.127 ± 0.055	1.0000
0.00033	97.3	1.77	1.0	0.140 ± 0.035	1.0000
0.00047	98.0	1.6	0.9	0.133 ± 0.029	1.0000
0.00066	97.7	2.1	1.1	0.167 ± 0.037	1.0000
0.00081	100.5	1.93	1.1	0.200 ± 0.031	1.0000
0.00099	97.4	2.53	1.4	0.273 ± 0.047	1.0000
0.0012	89.1	2.97	1.6	0.480 ± 0.090	0.1003
0.0015	80.8	3.8	2.1	0.473 ± 0.074	0.1003
0.0018	68.1	6.5	3.5	0.693 ± 0.071	0.0313
0.0022	61.3	9.7	5.3	1.110 ± 0.120	
0.0027	50.5	11.83	6.4	1.770 ± 0.190	
0.0038	36.5	20.17	11.0	1.770 ± 0.320	
Trend p-Value				0.0021 *	
VIN <sup>4</sup>	48.3	23.28	12.6	3.020 ± 0.570	< 0.001 *

Trial Summary: Equivocal

Experiment Number: G18027C

**G03: In Vitro Micronucleus Summary Data**  
 Test Compound: Roundup Custom|Distilled Water

Date Report Requested: 09/24/2021

Test Type: Genetic Toxicology - In Vitro  
 Micronucleus

Time Report Requested: 14:16:06

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

Concentration (dilution)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control <sup>1</sup>	100.0	3.55	1.0	0.544 ± 0.030	
0.000605	100.6	3.47	1.0	0.447 ± 0.035	1.0000
0.000855	96.6	3.47	1.0	0.453 ± 0.035	1.0000
0.00121	111.7	3.37	0.9	0.507 ± 0.077	1.0000
0.001711	98.0	3.67	1.0	0.527 ± 0.055	1.0000
0.002095	101.5	3.5	1.0	0.627 ± 0.098	1.0000
0.002566	98.6	3.9	1.1	0.527 ± 0.070	1.0000
0.003143	100.9	4.5	1.3	0.507 ± 0.077	1.0000
0.003849	86.0	3.77	1.1	0.560 ± 0.053	1.0000
0.004714	85.3	5.8	1.6	0.627 ± 0.113	1.0000
0.005774	81.9	7.23	2.0	0.740 ± 0.193	1.0000
0.007071	88.0	7.33	2.1	0.680 ± 0.183	1.0000
0.01	65.1	11.73	3.3	0.720 ± 0.145	1.0000
Trend p-Value				0.0732	
CPA <sup>5</sup>	44.2	17.83	5.0	5.410 ± 2.491	0.0010 *
Trial Summary: Negative					

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

Concentration (dilution)	% Relative Survival	% Apoptosis and Necrosis	Fold Change in Apoptosis and Necrosis	% MN	p-Value
	Mean	Mean	Mean	Mean ± SEM	
Vehicle Control <sup>1</sup>	100.0	1.56	1.0	0.392 ± 0.016	
0.000605	101.9	1.93	1.2	0.413 ± 0.007	1.0000
0.000855	89.4	2.1	1.4	0.467 ± 0.033	1.0000
0.00121	91.3	1.87	1.2	0.400 ± 0.023	1.0000
0.001711	88.9	2.17	1.4	0.480 ± 0.050	0.9444
0.002095	85.8	2.57	1.7	0.420 ± 0.023	1.0000
0.002566	91.0	2.1	1.4	0.447 ± 0.064	1.0000
0.003143	84.3	2.77	1.8	0.533 ± 0.093	0.4691
0.003849	81.5	3.2	2.1	0.480 ± 0.081	1.0000
0.004714	78.6	3.5	2.3	0.653 ± 0.047	0.0082 *
0.005774	79.6	3.97	2.6	0.673 ± 0.064	0.0069 *
0.007071	75.0	4.27	2.7	0.587 ± 0.064	0.0453
0.01	74.1	4.73	3.0	0.587 ± 0.073	0.0699
Trend p-Value				< 0.001 *	
CPA <sup>5</sup>	47.4	7.63	4.9	2.275 ± 0.440	< 0.001 *
Trial Summary: Negative					

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LEGEND

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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 \*\***