

Study Number: I10482B
Test Type: TOX
Route: Dosing in Feed
Species/Strain: Rat/Harlan Sprague Dawley

M06: Spleen Immunophenotyping
Test Compound: N-Butylbenzenesulfonamide
CAS Number: 3622-84-2

Date Report Requested: 11/20/2020
Time Report Requested: 13:14:02
Lab: Burleson Research Technologies

Study Number: I10482B
Study Gender: Both
PWG Approval Date: See web page for date of PWG Approval
Version: v1.1.1

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F1 Males: Immunophenotyping

Treatment Groups (ppm)

	0	250	500	1000	15 mg/kg CPS
Spleen Cells (x10 ⁶)	175.01 ± 21.51 (12)	221.79 ± 43.74 (12)	148.60 ± 20.42 (11)	178.88 ± 20.23 (12)	76.94 ± 11.55 (8) **
Total Lymphocytes	173.561 ± 21.295 (12)	218.718 ± 43.275 (12)	146.694 ± 20.215 (11)	175.337 ± 19.772 (12)	76.587 ± 11.499 (8) **
Total T Cells	61.670 ± 8.390 (12)	73.097 ± 14.496 (12)	48.229 ± 7.305 (11)	62.631 ± 7.372 (12)	42.081 ± 6.842 (8)
CD4 ⁺ T Cells ^a	35.083 ± 5.065 (12)	41.889 ± 8.525 (12)	26.546 ± 3.874 (11)	36.983 ± 5.182 (12)	22.900 ± 3.486 (8)
CD8 ⁺ T Cells ^b	24.380 ± 3.351 (12)	28.278 ± 5.531 (12)	19.632 ± 3.212 (11)	23.124 ± 2.417 (12)	17.651 ± 3.257 (8)
B Cells	79.096 ± 8.852 (12)	102.436 ± 20.971 (12)	68.464 ± 8.617 (11)	75.988 ± 8.842 (12)	17.726 ± 3.140 (8) **
NK Cells	6.242 ± 0.880 (12)	6.883 ± 1.444 (12)	5.239 ± 0.934 (11)	6.513 ± 0.769 (12)	4.505 ± 0.696 (8)
Mono/Mac Cells ^c	3.184 ± 0.498 (12)	4.650 ± 1.179 (12)	3.007 ± 0.641 (11)	3.209 ± 0.427 (12)	0.962 ± 0.127 (8) **
Neutrophils	0.873 ± 0.091 (12) **	0.890 ± 0.119 (12)	0.554 ± 0.068 (11) *	0.588 ± 0.061 (12) *	0.422 ± 0.078 (8) **
Eosinophils	0.083 ± 0.010 (12)	0.115 ± 0.024 (12)	0.104 ± 0.017 (11)	0.109 ± 0.014 (12)	0.056 ± 0.008 (8)
Total T Cells: B Cells Ratio	0.760 ± 0.040 (12)	0.703 ± 0.038 (12)	0.679 ± 0.032 (11)	0.830 ± 0.034 (12)	2.544 ± 0.277 (8) **
CD4 ⁺ T Cells: CD8 ⁺ T Cells Ratio	1.453 ± 0.105 (12)	1.520 ± 0.096 (12)	1.385 ± 0.060 (11)	1.622 ± 0.130 (12)	1.379 ± 0.109 (8)
Percent Total Lymphocytes	99.203 ± 0.062 (12) **	98.525 ± 0.164 (12) **	98.673 ± 0.136 (11) **	98.078 ± 0.215 (12) **	99.528 ± 0.041 (8) **
Percent Total T Cells	34.828 ± 1.095 (12)	32.740 ± 0.924 (12)	31.961 ± 0.957 (11)	35.618 ± 0.874 (12)	54.556 ± 1.901 (8) **
Percent CD4 ⁺ T Cells ^a	56.374 ± 1.518 (12)	57.247 ± 1.206 (12)	55.277 ± 0.903 (11)	58.407 ± 1.768 (12)	55.196 ± 1.735 (8)
Percent CD8 ⁺ T Cells ^b	39.948 ± 1.462 (12)	38.524 ± 1.258 (12)	40.323 ± 0.973 (11)	37.547 ± 1.763 (12)	41.014 ± 1.810 (8)
Percent B Cells	46.518 ± 1.232 (12)	47.234 ± 1.122 (12)	47.522 ± 1.004 (11)	43.190 ± 0.719 (12)	22.799 ± 1.871 (8) **
Percent NK Cells	3.548 ± 0.186 (12)	3.053 ± 0.175 (12)	3.441 ± 0.211 (11)	3.687 ± 0.103 (12)	6.079 ± 0.508 (8) **
Percent Mono/Mac Cells ^c	1.763 ± 0.094 (12)	2.014 ± 0.125 (12)	1.922 ± 0.140 (11)	1.776 ± 0.127 (12)	1.305 ± 0.082 (8) **
Percent Neutrophils	0.515 ± 0.021 (12) **	0.462 ± 0.041 (12)	0.384 ± 0.015 (11) **	0.338 ± 0.014 (12) **	0.546 ± 0.028 (8)
Percent Eosinophils	0.049 ± 0.003 (12) **	0.053 ± 0.003 (12)	0.070 ± 0.004 (11) **	0.062 ± 0.005 (12) *	0.078 ± 0.009 (8) *

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F1 Females: Immunophenotyping

Treatment Groups (ppm)

	0	250	500	1000	15 mg/kg CPS
Spleen Cells (x10 ⁶)	173.89 ± 18.30 (12)	158.74 ± 18.60 (12)	132.19 ± 15.47 (12)	171.64 ± 22.24 (12)	50.50 ± 7.37 (8) **
Total Lymphocytes	165.837 ± 17.480 (12)	153.211 ± 18.344 (12)	131.665 ± 16.000 (11)	167.008 ± 21.885 (12)	49.858 ± 7.331 (8) **
Total T Cells	62.912 ± 6.204 (12)	49.463 ± 7.038 (12)	48.202 ± 6.315 (11)	64.826 ± 10.827 (12)	28.269 ± 3.362 (8) **
CD4 ⁺ T Cells ^a	36.426 ± 3.657 (12)	30.416 ± 5.046 (12)	30.026 ± 4.026 (11)	41.349 ± 6.607 (12)	18.518 ± 2.099 (8) **
CD8 ⁺ T Cells ^b	24.465 ± 2.578 (12)	17.144 ± 2.250 (12)	16.613 ± 2.266 (11)	21.183 ± 4.072 (12)	9.175 ± 1.302 (8) **
B Cells	77.574 ± 8.227 (12)	77.130 ± 9.307 (12)	62.496 ± 8.054 (11)	74.496 ± 8.975 (12)	11.695 ± 3.020 (8) **
NK Cells	6.772 ± 0.677 (12)	4.792 ± 0.664 (12)	4.424 ± 0.674 (11)	5.960 ± 0.874 (12)	3.063 ± 0.552 (8) **
Mono/Mac Cells ^c	2.998 ± 0.474 (12)	3.301 ± 0.441 (12)	3.032 ± 0.420 (12)	4.146 ± 0.435 (12)	0.907 ± 0.186 (8) **
Neutrophils	2.186 ± 0.306 (12)	1.728 ± 0.199 (12)	1.576 ± 0.199 (12)	1.626 ± 0.228 (12)	0.311 ± 0.049 (8) **
Eosinophils	0.499 ± 0.069 (12) *	0.557 ± 0.079 (12)	0.528 ± 0.069 (12)	0.894 ± 0.119 (12) *	0.260 ± 0.044 (8) *
Total T Cells: B Cells Ratio	0.822 ± 0.037 (12)	0.633 ± 0.037 (12) *	0.785 ± 0.066 (11)	0.849 ± 0.070 (12)	3.408 ± 0.642 (8) **
CD4 ⁺ T Cells: CD8 ⁺ T Cells Ratio	1.522 ± 0.086 (12) **	1.774 ± 0.174 (12)	1.860 ± 0.126 (11) *	2.056 ± 0.136 (12) **	2.086 ± 0.119 (8) **
Percent Total Lymphocytes	95.433 ± 0.921 (12)	96.344 ± 0.891 (12)	97.223 ± 0.433 (11)	97.145 ± 0.465 (12)	98.649 ± 0.325 (8) **
Percent Total T Cells	38.260 ± 1.154 (12)	31.573 ± 1.213 (12) **	36.256 ± 1.771 (11)	37.536 ± 1.690 (12)	58.909 ± 3.044 (8) **
Percent CD4 ⁺ T Cells ^a	57.923 ± 1.258 (12) **	60.131 ± 1.696 (12)	62.236 ± 1.485 (11) *	64.113 ± 1.308 (12) **	65.883 ± 1.300 (8) **
Percent CD8 ⁺ T Cells ^b	38.831 ± 1.250 (12) **	35.784 ± 1.784 (12)	34.394 ± 1.389 (11) *	32.148 ± 1.340 (12) **	32.091 ± 1.290 (8) **
Percent B Cells	46.976 ± 0.994 (12)	50.633 ± 1.345 (12)	47.514 ± 1.611 (11)	45.532 ± 1.484 (12)	21.466 ± 3.254 (8) **
Percent NK Cells	4.127 ± 0.236 (12)	3.103 ± 0.193 (12) *	3.351 ± 0.337 (11)	3.554 ± 0.219 (12)	5.989 ± 0.721 (8) *
Percent Mono/Mac Cells ^c	1.702 ± 0.176 (12) **	2.107 ± 0.155 (12)	2.308 ± 0.208 (12) *	2.511 ± 0.171 (12) **	1.757 ± 0.135 (8)
Percent Neutrophils	1.258 ± 0.095 (12) *	1.113 ± 0.065 (12)	1.241 ± 0.142 (12)	0.960 ± 0.079 (12) *	0.601 ± 0.062 (8) **
Percent Eosinophils	0.283 ± 0.030 (12) **	0.372 ± 0.043 (12)	0.401 ± 0.024 (12) **	0.529 ± 0.044 (12) **	0.508 ± 0.029 (8) **

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LEGEND

Data are displayed as mean \pm SEM (N) unless otherwise noted.

^aHelper/DTH - T Cell

^bCytotoxic T Cell

^cMonocytes/Macrophage

All units are per 10^6 spleen cells unless otherwise noted

Statistical analysis performed by Jonckheere (trend) and Shirley or Dunn (pairwise) tests.

Statistical analysis for the positive control group compared to the vehicle control group was performed using the Kruskal-Wallis test.

Statistical significance for the control group indicates a significant trend test

Statistical significance for a treatment group indicates a significant pairwise test compared to the vehicle control group

* Statistically significant at $P \leq 0.05$

** Statistically significant at $P \leq 0.01$

CPS = Cyclophosphamide

**** END OF REPORT ****