

M06: Spleen Immunophenotyping

Study Number: I20045

Test Compound: Phenanthrene

Date: 03 Sep 2024

DTTID: 103-005-012-000-2

CAS Number: 85-01-8

Time: 2:28:21 PM

Study Type: Immune screening

DTXSID: DTXSID6024254

Species/Strain: Mouse/B6C3F1/N

Females: SRBC Cohort

	Treatment Groups							
	0 mg/kg	12.5 mg/kg	25 mg/kg	50 mg/kg	100 mg/kg	200 mg/kg	400 mg/kg	50 mg/kg CPS
Spleen Cells (x10 ⁶)	92.81 ± 7.36[8]	81.50 ± 3.12[6]	92.64 ± 6.46[5]	96.98 ± 13.66[8]	102.36 ± 9.58[5]	81.40 ± 6.83[6]	74.40 ± 7.38[7]	19.37 ± 4.67[8]**
Absolute counts								
Total Lymphocytes	89.390 ± 6.952[8]	78.354 ± 3.342[6]	89.042 ± 5.948[5]	94.686 ± 13.193[8]	98.963 ± 9.229[5]	78.358 ± 6.561[6]	71.611 ± 6.841[7]	18.706 ± 4.595[8]**
Total T Cells	43.648 ± 2.634[8]	39.986 ± 2.417[6]	44.806 ± 2.821[5]	48.806 ± 7.551[8]	50.637 ± 5.769[5]	40.073 ± 4.667[6]	35.494 ± 4.511[7]	12.973 ± 3.187[8]**
CD4 ⁺ T Cells ^a	25.692 ± 1.520[8]	23.919 ± 1.519[6]	26.832 ± 2.274[5]	29.967 ± 5.104[8]	30.538 ± 3.769[5]	23.302 ± 2.734[6]	20.397 ± 2.805[7]	6.730 ± 1.700[8]**
CD8 ⁺ T Cells ^b	15.265 ± 0.870[8]	13.819 ± 0.790[6]	15.403 ± 0.502[5]	16.214 ± 2.110[8]	17.290 ± 1.755[5]	14.607 ± 1.797[6]	13.022 ± 1.536[7]	5.299 ± 1.354[8]**
B Cells	38.627 ± 3.955[8]	31.656 ± 1.235[6]	37.180 ± 2.903[5]	38.454 ± 5.001[8]	40.356 ± 2.969[5]	31.637 ± 2.986[6]	29.559 ± 2.646[7]	3.697 ± 1.155[8]**
NK Cells	3.106 ± 0.235[8]	3.142 ± 0.182[6]	3.316 ± 0.287[5]	3.202 ± 0.391[8]	3.566 ± 0.472[5]	2.942 ± 0.286[6]	2.824 ± 0.359[7]	0.838 ± 0.284[8]**
Mono/Mac Cells ^c	1.471 ± 0.125[8]	1.334 ± 0.056[6]	1.443 ± 0.161[5]	1.602 ± 0.226[8]	1.595 ± 0.190[5]	1.188 ± 0.100[6]	1.110 ± 0.116[7]	0.172 ± 0.038[8]**
Neutrophils	0.449 ± 0.066[8]	0.317 ± 0.035[6]	0.324 ± 0.039[5]	0.430 ± 0.070[8]	0.425 ± 0.052[5]	0.387 ± 0.065[6]	0.313 ± 0.052[7]	0.091 ± 0.042[8]**
Eosinophils	0.109 ± 0.009[8]	0.085 ± 0.011[6]	0.085 ± 0.014[5]	0.104 ± 0.021[8]	0.104 ± 0.013[5]	0.097 ± 0.015[6]	0.067 ± 0.010[7]*	0.028 ± 0.015[8]**
Total T Cells: B Cells Ratio	1.164 ± 0.061[8]	1.267 ± 0.069[6]	1.213 ± 0.042[5]	1.250 ± 0.077[8]	1.244 ± 0.072[5]	1.300 ± 0.137[6]	1.206 ± 0.137[7]	3.994 ± 0.625[8]**
CD4 ⁺ T Cells: CD8 ⁺ T Cells Ratio	1.683 ± 0.027[8]	1.730 ± 0.026[6]	1.739 ± 0.117[5]	1.786 ± 0.074[8]	1.754 ± 0.050[5]	1.606 ± 0.054[6]	1.550 ± 0.059[7]	1.267 ± 0.088[8]*
Relative counts								
Percent Total Lymphocytes (%)	96.426 ± 0.515[8]	96.075 ± 0.553[6]	96.204 ± 0.607[5]	97.789 ± 0.247[8]	96.728 ± 0.702[5]	96.338 ± 1.317[6]	96.547 ± 0.577[7]	95.109 ± 2.029[8]
Percent Total T Cells (%)	49.273 ± 1.190[8]	50.898 ± 1.273[6]	50.396 ± 0.721[5]	50.801 ± 1.392[8]	50.792 ± 1.370[5]	50.857 ± 3.038[6]	48.754 ± 2.417[7]	67.740 ± 3.511[8]**
Percent CD4 ⁺ T Cells (%)	58.888 ± 0.388[8]	59.777 ± 0.306[6]	59.608 ± 1.439[5]	60.425 ± 0.952[8]	60.096 ± 0.704[5]	58.153 ± 0.820[6]	57.019 ± 0.972[7]	50.126 ± 1.898[8]**
Percent CD8 ⁺ T Cells (%)	35.028 ± 0.394[8]*	34.592 ± 0.388[6]	34.690 ± 1.569[5]	34.078 ± 0.824[8]	34.320 ± 0.549[5]	36.353 ± 0.806[6]	36.981 ± 0.839[7]	40.246 ± 1.957[8]
Percent B Cells (%)	42.764 ± 1.170[8]	40.508 ± 1.247[6]	41.638 ± 0.776[5]	41.204 ± 1.318[8]	41.132 ± 1.291[5]	40.607 ± 2.825[6]	42.076 ± 2.423[7]	19.470 ± 2.335[8]**
Percent NK Cells (%)	3.481 ± 0.112[8]	4.013 ± 0.184[6]	3.712 ± 0.158[5]	3.451 ± 0.134[8]	3.566 ± 0.166[5]	3.757 ± 0.187[6]	3.927 ± 0.301[7]	4.451 ± 1.046[8]
Percent Mono/Mac Cells (%)	1.581 ± 0.014[8]	1.636 ± 0.026[6]	1.541 ± 0.085[5]	1.657 ± 0.046[8]	1.548 ± 0.053[5]	1.468 ± 0.066[6]	1.493 ± 0.043[7]	1.000 ± 0.195[8]*
Percent Neutrophils (%)	0.514 ± 0.111[8]	0.387 ± 0.035[6]	0.350 ± 0.039[5]	0.444 ± 0.028[8]	0.424 ± 0.055[5]	0.476 ± 0.067[6]	0.414 ± 0.049[7]	0.833 ± 0.558[8]
Percent Eosinophils (%)	0.120 ± 0.010[8]	0.104 ± 0.014[6]	0.097 ± 0.018[5]	0.106 ± 0.009[8]	0.103 ± 0.011[5]	0.119 ± 0.016[6]	0.089 ± 0.010[7]	0.270 ± 0.184[8]

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LEGEND

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

All units are $\times 10^6$ /spleen unless otherwise noted.

Statistical analysis performed by Jonckheere (trend) and Shirley or Dunn (pairwise) tests. The positive control group (50 mg/kg CPS) was excluded from trend test.

Statistical analysis for the positive control group (50 mg/kg CPS) compared to the vehicle control group was performed using the Wilcoxon rank sum 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 $P \leq 0.01$

^aCD4⁺ T Cells = Helper/DTH - T Cell

^bCD8⁺ T Cells = Cytotoxic T Cell

^cMono/Mac Cells = Monocytes/Macrophage

SRBC = Sheep Red Blood Cells

SD = Study Day

SEM = Standard Error of the Mean

CPS = Cyclophosphamide

Females from the vehicle control and treatment groups were removed on SD 28.

** END OF REPORT **