

M06: Spleen Immunophenotyping

Study Number: I10577

DTTID: 103-005-013-000-3

Study Type: Immune screening

Species/Strain: Mouse/B6C3F1/N

Test Compound: Pyrene

CAS Number: 129-00-0

DTXSID: DTXSID3024289

Date: 03 Sep 2024

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Females: Immunophenotyping

	Treatment Groups								
	0 mg/kg	3.1 mg/kg	6.3 mg/kg	12.5 mg/kg	25 mg/kg	50 mg/kg	100 mg/kg	200 mg/kg	10 mg/kg B(a)P
Spleen Cells (x10 ⁶)	62.06 ± 3.10[8]	56.63 ± 5.23[8]	64.54 ± 4.61[8]	64.58 ± 7.06[8]	62.31 ± 3.19[7]	70.50 ± 5.17[8]	61.28 ± 4.84[8]	74.93 ± 6.69[8]	67.88 ± 10.01[8]
Absolute counts									
Total Lymphocytes	60.240 ± 2.818[8]	53.500 ± 5.470[8]	61.591 ± 4.541[8]	62.384 ± 6.783[8]	60.716 ± 3.446[7]	68.572 ± 4.908[8]	59.845 ± 4.724[8]	68.760 ± 5.342[8]	58.416 ± 8.204[8]
Total T Cells	27.021 ± 1.282[8]	22.888 ± 2.740[7]	26.224 ± 2.274[8]	26.339 ± 2.578[8]	25.070 ± 1.401[7]	28.720 ± 1.932[8]	25.229 ± 2.047[8]	28.050 ± 2.206[8]	24.696 ± 3.452[8]
CD4 ⁺ T Cells ^a	16.079 ± 0.974[7]	13.801 ± 1.800[7]	15.911 ± 1.412[8]	15.848 ± 1.552[8]	15.233 ± 0.903[7]	17.564 ± 1.238[8]	15.147 ± 1.222[8]	16.771 ± 1.271[8]	15.083 ± 2.248[8]
CD8 ⁺ T Cells ^b	9.469 ± 0.473[7]	8.021 ± 0.822[7]	9.086 ± 0.772[8]	9.203 ± 0.881[8]	8.627 ± 0.457[7]	9.797 ± 0.602[8]	8.893 ± 0.727[8]	9.880 ± 0.808[8]	8.534 ± 1.072[8]
B Cells	28.702 ± 1.466[8]*	25.419 ± 2.950[7]	30.840 ± 2.015[8]	31.482 ± 3.840[8]	31.189 ± 1.865[7]	34.821 ± 2.813[8]	30.497 ± 2.411[8]	35.850 ± 2.932[8]	29.836 ± 4.268[8]
NK Cells	1.089 ± 0.055[8]	0.986 ± 0.122[7]	1.141 ± 0.055[8]	1.226 ± 0.133[8]	1.191 ± 0.073[7]	1.268 ± 0.104[8]	1.061 ± 0.095[8]	1.196 ± 0.106[8]	0.982 ± 0.141[8]
Mono/Mac Cells ^c	1.518 ± 0.074[8]	1.415 ± 0.154[7]	1.552 ± 0.123[8]	1.575 ± 0.162[8]	1.558 ± 0.119[7]	1.744 ± 0.131[8]	1.441 ± 0.101[8]	1.702 ± 0.132[8]	1.330 ± 0.186[8]
Neutrophils	0.091 ± 0.009[8]	0.082 ± 0.019[7]	0.084 ± 0.008[8]	0.121 ± 0.030[8]	0.119 ± 0.011[7]	0.120 ± 0.011[8]	0.078 ± 0.009[8]	0.088 ± 0.011[8]	0.106 ± 0.024[8]
Eosinophils	0.224 ± 0.010[8]	0.229 ± 0.022[7]	0.226 ± 0.014[8]	0.238 ± 0.029[8]	0.222 ± 0.029[7]	0.212 ± 0.016[8]	0.171 ± 0.012[8]	0.232 ± 0.017[8]	0.188 ± 0.029[8]
Total T Cells: B Cells Ratio	0.945 ± 0.024[8]**	0.899 ± 0.030[7]	0.846 ± 0.031[8]	0.866 ± 0.052[8]	0.806 ± 0.019[7]*	0.836 ± 0.035[8]*	0.830 ± 0.023[8]*	0.787 ± 0.023[8]**	0.835 ± 0.022[8]**
CD4 ⁺ T Cells: CD8 ⁺ T Cells Ratio	1.695 ± 0.035[7]	1.694 ± 0.054[7]	1.747 ± 0.032[8]	1.719 ± 0.033[8]	1.764 ± 0.032[7]	1.787 ± 0.026[8]	1.707 ± 0.029[8]	1.703 ± 0.015[8]	1.730 ± 0.057[8]
Relative counts									
Percent Total Lymphocytes (%)	97.188 ± 0.577[8]	94.090 ± 1.516[8]	95.400 ± 1.094[8]	96.730 ± 1.002[8]	97.241 ± 0.758[7]	97.353 ± 0.341[8]	97.716 ± 0.573[8]	92.453 ± 1.915[8]	87.010 ± 1.278[8]**
Percent Total T Cells (%)	44.873 ± 0.576[8]**	43.840 ± 0.806[7]	42.356 ± 0.792[8]	42.746 ± 1.311[8]	41.317 ± 0.518[7]*	42.044 ± 0.937[8]*	42.183 ± 0.677[8]*	40.841 ± 0.712[8]**	42.395 ± 0.590[8]*
Percent CD4 ⁺ T Cells (%)	59.851 ± 0.495[7]	59.874 ± 0.701[7]	60.573 ± 0.423[8]	60.134 ± 0.434[8]	60.696 ± 0.417[7]	61.070 ± 0.339[8]	60.076 ± 0.417[8]	59.876 ± 0.246[8]	60.504 ± 0.734[8]
Percent CD8 ⁺ T Cells (%)	35.377 ± 0.469[7]	35.469 ± 0.691[7]	34.726 ± 0.396[8]	35.053 ± 0.469[8]	34.453 ± 0.412[7]	34.213 ± 0.324[8]	35.245 ± 0.394[8]	35.175 ± 0.206[8]	35.135 ± 0.717[8]
Percent B Cells (%)	47.601 ± 0.595[8]**	48.926 ± 0.739[7]	50.315 ± 0.877[8]	49.949 ± 1.341[8]	51.343 ± 0.590[7]*	50.583 ± 0.924[8]*	50.953 ± 0.640[8]**	52.044 ± 0.673[8]**	50.899 ± 0.624[8]**
Percent NK Cells (%)	1.826 ± 0.107[8]	1.883 ± 0.026[7]	1.893 ± 0.099[8]	1.966 ± 0.064[8]	1.961 ± 0.046[7]	1.859 ± 0.100[8]	1.765 ± 0.048[8]	1.738 ± 0.063[8]	1.674 ± 0.045[8]
Percent Mono/Mac Cells (%)	2.449 ± 0.038[8]*	2.552 ± 0.033[7]	2.404 ± 0.080[8]	2.446 ± 0.036[8]	2.480 ± 0.077[7]	2.475 ± 0.045[8]	2.367 ± 0.044[8]	2.291 ± 0.052[8]	1.975 ± 0.034[8]**
Percent Neutrophils (%)	0.145 ± 0.008[8]	0.141 ± 0.017[7]	0.129 ± 0.006[8]	0.175 ± 0.022[8]	0.190 ± 0.012[7]	0.171 ± 0.012[8]	0.126 ± 0.010[8]	0.117 ± 0.010[8]	0.148 ± 0.023[8]
Percent Eosinophils (%)	0.363 ± 0.013[8]**	0.422 ± 0.020[7]	0.356 ± 0.019[8]	0.363 ± 0.021[8]	0.352 ± 0.032[7]	0.301 ± 0.007[8]*	0.282 ± 0.009[8]*	0.316 ± 0.017[8]*	0.282 ± 0.019[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 (10 mg/kg B(a)P) was excluded from trend test.

Statistical analysis for the positive control group (10 mg/kg B(a)P) 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

SD = Study Day

SEM = Standard Error of the Mean

B(a)P = Benzo(a)pyrene

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

** END OF REPORT **