

M06: Spleen Immunophenotyping

Study Number: I07062B

DTTID: 108-006-006-000-1

Study Type: Immune screening

Species/Strain: Mouse/B6C3F1/N

Test Compound: 1020 Long Multiwalled Carbon Nanotubes

CAS Number: L-MWNT-1020

DTXSID: DTXSID601356181

Date: 05 Sep 2024

Time: 12:18:00 PM

Females: Immunophenotyping

	Treatment Groups				
	0 mg/m ³	0.06 mg/m ³	0.2 mg/m ³	0.6 mg/m ³	50 mg/kg CPS
Spleen Cells (x10 ⁶)	78.48 ± 8.07[8]	70.90 ± 3.65[8]	75.20 ± 4.70[7]	74.38 ± 3.08[8]	19.88 ± 1.59[8]**
Absolute counts					
Total Lymphocytes	70.403 ± 7.494[8]	65.746 ± 3.957[8]	70.824 ± 5.143[7]	67.541 ± 2.900[8]	19.357 ± 1.527[8]**
Total T Cells	21.088 ± 2.375[8]	20.014 ± 1.474[8]	20.643 ± 2.052[7]	19.558 ± 0.760[8]	9.534 ± 0.727[8]**
CD4 ⁺ T Cells ^a	11.935 ± 1.393[8]	11.518 ± 0.916[8]	12.019 ± 1.216[7]	11.036 ± 0.488[8]	5.288 ± 0.403[8]**
CD8 ⁺ T Cells ^b	7.574 ± 0.828[8]	7.093 ± 0.495[8]	7.058 ± 0.760[7]	6.999 ± 0.241[8]	3.690 ± 0.289[8]**
B Cells	42.438 ± 4.404[8]	39.452 ± 2.152[8]	43.374 ± 2.811[7]	41.201 ± 1.966[8]	8.284 ± 0.716[8]**
NK Cells	3.403 ± 0.447[8]	2.873 ± 0.193[8]	3.550 ± 0.233[7]	3.321 ± 0.155[8]	0.746 ± 0.083[8]**
Mono/Mac Cells ^c	1.502 ± 0.175[8]	1.339 ± 0.088[8]	1.395 ± 0.087[7]	1.457 ± 0.091[8]	0.263 ± 0.023[8]**
Neutrophils	0.067 ± 0.007[8]	0.064 ± 0.007[8]	0.075 ± 0.010[7]	0.081 ± 0.009[8]	0.008 ± 0.001[7]**
Eosinophils	0.069 ± 0.009[8]	0.051 ± 0.004[8]	0.050 ± 0.005[7]	0.066 ± 0.004[8]	0.015 ± 0.001[8]**
Total T Cells: B Cells Ratio	0.496 ± 0.012[8]	0.505 ± 0.017[8]	0.473 ± 0.031[7]	0.477 ± 0.011[8]	1.167 ± 0.056[8]**
CD4 ⁺ T Cells: CD8 ⁺ T Cells Ratio	1.569 ± 0.027[8]	1.619 ± 0.032[8]	1.716 ± 0.044[7]*	1.574 ± 0.023[8]	1.434 ± 0.019[8]**
Relative counts					
Percent Total Lymphocytes (%)	89.389 ± 1.672[8]	92.449 ± 1.291[8]	93.834 ± 1.043[7]	90.821 ± 1.060[8]	97.420 ± 0.335[8]**
Percent Total T Cells (%)	29.871 ± 0.467[8]	30.276 ± 0.671[8]	28.851 ± 1.282[7]	29.014 ± 0.391[8]	49.399 ± 1.152[8]**
Percent CD4 ⁺ T Cells (%)	56.464 ± 0.428[8]	57.396 ± 0.496[8]	58.153 ± 0.475[7]	56.350 ± 0.362[8]	55.450 ± 0.398[8]
Percent CD8 ⁺ T Cells (%)	36.025 ± 0.375[8]	35.511 ± 0.428[8]	33.989 ± 0.659[7]*	35.844 ± 0.363[8]	38.701 ± 0.262[8]**
Percent B Cells (%)	60.374 ± 0.561[8]	60.198 ± 0.780[8]	61.533 ± 1.390[7]	60.928 ± 0.598[8]	42.679 ± 1.038[8]**
Percent NK Cells (%)	4.755 ± 0.187[8]	4.364 ± 0.100[8]	5.039 ± 0.140[7]	4.928 ± 0.146[8]	3.805 ± 0.136[8]**
Percent Mono/Mac Cells (%)	1.902 ± 0.060[8]	1.885 ± 0.064[8]	1.864 ± 0.073[7]	1.962 ± 0.095[8]	1.323 ± 0.031[8]**
Percent Neutrophils (%)	0.086 ± 0.005[8]	0.091 ± 0.011[8]	0.104 ± 0.018[7]	0.108 ± 0.010[8]	0.042 ± 0.005[7]**
Percent Eosinophils (%)	0.088 ± 0.007[8]	0.073 ± 0.004[8]	0.066 ± 0.006[7]	0.089 ± 0.004[8]	0.074 ± 0.003[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

SEM = Standard Error of the Mean

SD = Study Day

CPS = Cyclophosphamide

Females from the vehicle control and treatment groups were removed on SD 42.

OUTLIERS

One value for the neutrophils from the positive control group (50 mg/kg CPS) was excluded because it was an outlier.

**** END OF REPORT ****