

M06: Spleen Immunophenotyping

Study Number: I07062C

DTTID: 108-006-008-000-3

Study Type: Immune screening

Species/Strain: Mouse/B6C3F1/N

Test Compound: 1020 Long Multiwalled Carbon Nanotubes

CAS Number: L-MWNT-1020

DTXSID: DTXSID601356181

Date: 29 Aug 2024

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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)	61.25 ± 4.60[8]	58.73 ± 3.51[8]	67.70 ± 5.47[8]	54.63 ± 6.02[8]	13.39 ± 0.84[8]**
Absolute counts					
Total Lymphocytes	59.106 ± 4.258[8]	56.090 ± 3.460[8]	65.677 ± 5.273[8]	53.319 ± 5.932[8]	13.170 ± 0.802[8]**
Total T Cells	17.811 ± 1.654[8]	16.875 ± 1.057[8]	20.122 ± 1.447[8]	16.921 ± 1.722[8]	7.336 ± 0.426[8]**
CD4 ⁺ T Cells ^a	10.101 ± 0.971[8]	9.778 ± 0.713[8]	11.745 ± 0.887[8]	9.853 ± 1.103[8]	4.222 ± 0.238[8]**
CD8 ⁺ T Cells ^b	6.332 ± 0.576[8]	5.797 ± 0.295[8]	6.820 ± 0.486[8]	5.754 ± 0.544[8]	2.717 ± 0.169[8]**
B Cells	37.166 ± 2.338[8]	35.475 ± 2.427[8]	41.381 ± 3.778[8]	32.914 ± 3.945[8]	4.970 ± 0.473[8]**
NK Cells	0.721 ± 0.052[8]	0.696 ± 0.056[8]	0.780 ± 0.085[8]	0.562 ± 0.048[8]	0.133 ± 0.011[8]**
Mono/Mac Cells ^c	1.450 ± 0.118[8]	1.444 ± 0.092[8]	1.538 ± 0.157[8]	1.199 ± 0.135[8]	0.209 ± 0.017[8]**
Neutrophils	0.115 ± 0.013[8]**	0.114 ± 0.008[8]	0.115 ± 0.016[8]	0.061 ± 0.007[8]**	0.013 ± 0.002[8]**
Eosinophils	0.098 ± 0.010[8]	0.100 ± 0.008[8]	0.099 ± 0.014[8]	0.105 ± 0.012[8]	0.032 ± 0.003[8]**
Total T Cells: B Cells Ratio	0.475 ± 0.025[8]*	0.480 ± 0.023[8]	0.494 ± 0.022[8]	0.522 ± 0.012[8]	1.545 ± 0.141[8]**
CD4 ⁺ T Cells: CD8 ⁺ T Cells Ratio	1.593 ± 0.041[8]	1.678 ± 0.054[8]	1.719 ± 0.020[8]	1.703 ± 0.053[8]	1.561 ± 0.036[8]**
Relative counts					
Percent Total Lymphocytes (%)	96.654 ± 0.557[8]	95.464 ± 0.586[8]	97.023 ± 0.400[8]	97.578 ± 0.367[8]	98.446 ± 0.208[8]**
Percent Total T Cells (%)	29.830 ± 1.069[8]*	30.144 ± 0.968[8]	30.854 ± 0.884[8]	31.973 ± 0.468[8]	55.973 ± 1.955[8]**
Percent CD4 ⁺ T Cells (%)	56.593 ± 0.643[8]	57.716 ± 0.733[8]	58.279 ± 0.458[8]	57.925 ± 0.763[8]	57.623 ± 0.543[8]
Percent CD8 ⁺ T Cells (%)	35.618 ± 0.542[8]	34.554 ± 0.713[8]	33.911 ± 0.256[8]	34.164 ± 0.666[8]	36.988 ± 0.531[8]
Percent B Cells (%)	63.281 ± 1.224[8]	63.164 ± 0.971[8]	62.723 ± 1.075[8]	61.381 ± 0.556[8]	37.490 ± 1.973[8]**
Percent NK Cells (%)	1.226 ± 0.046[8]	1.235 ± 0.047[8]	1.205 ± 0.102[8]	1.083 ± 0.069[8]	1.004 ± 0.036[8]**
Percent Mono/Mac Cells (%)	2.379 ± 0.111[8]	2.467 ± 0.093[8]	2.251 ± 0.096[8]	2.198 ± 0.045[8]	1.563 ± 0.076[8]**
Percent Neutrophils (%)	0.185 ± 0.013[8]**	0.193 ± 0.005[8]	0.165 ± 0.013[8]	0.118 ± 0.014[8]**	0.095 ± 0.010[8]**
Percent Eosinophils (%)	0.161 ± 0.011[8]	0.170 ± 0.008[8]	0.143 ± 0.011[8]	0.192 ± 0.011[8]	0.244 ± 0.017[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 113.

** END OF REPORT **