

Supporting Information

Gemini Lipid Nanoparticle (GLNP)-mediated Oral Delivery of TNF- α siRNA Mitigates the Gut Inflammation via Inhibiting the Differentiation of CD4⁺ T Cells.

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Table S1. Primer sequencing used for the study.

Gene Name	Forward primer (5' to 3')	Reverse primer (5' to 3')
TNF- α	GCCTATGTCTCAGCCTCTTC	CATTGCGGAAGTTCTCATCCC
β -actin	TCTACGAGGGCTATGCTCTCC	GGATGCCACAGGATTCCATAC

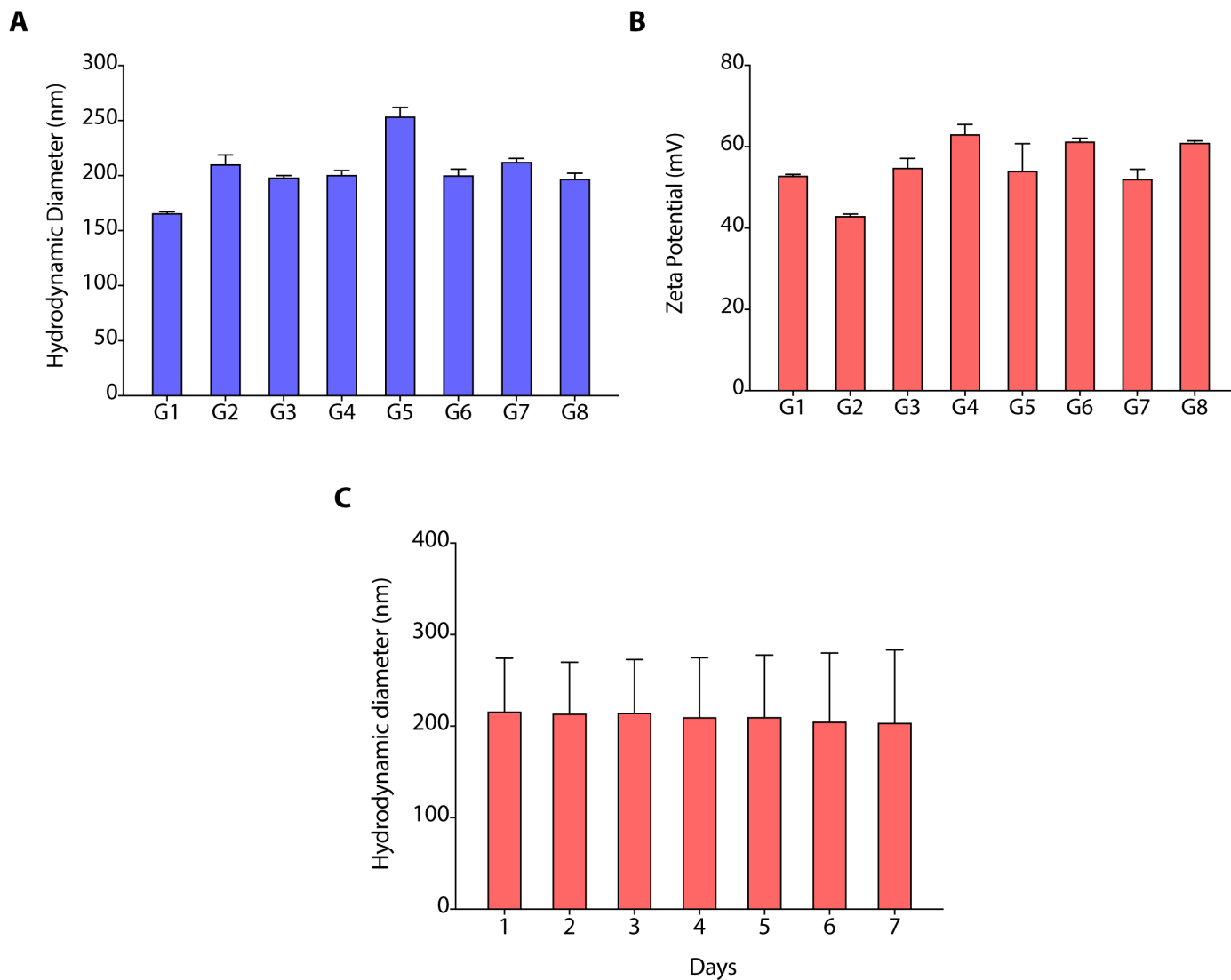


Figure S1. (A) Hydrodynamic diameter and (B) zeta potential of lipid nanoparticles prepared from different gemini lipids **G1-G8**. (C) Hydrodynamic diameter of siGLNPs (N/P = 2) from **G1** lipid on different days upon incubation at 37 °C.

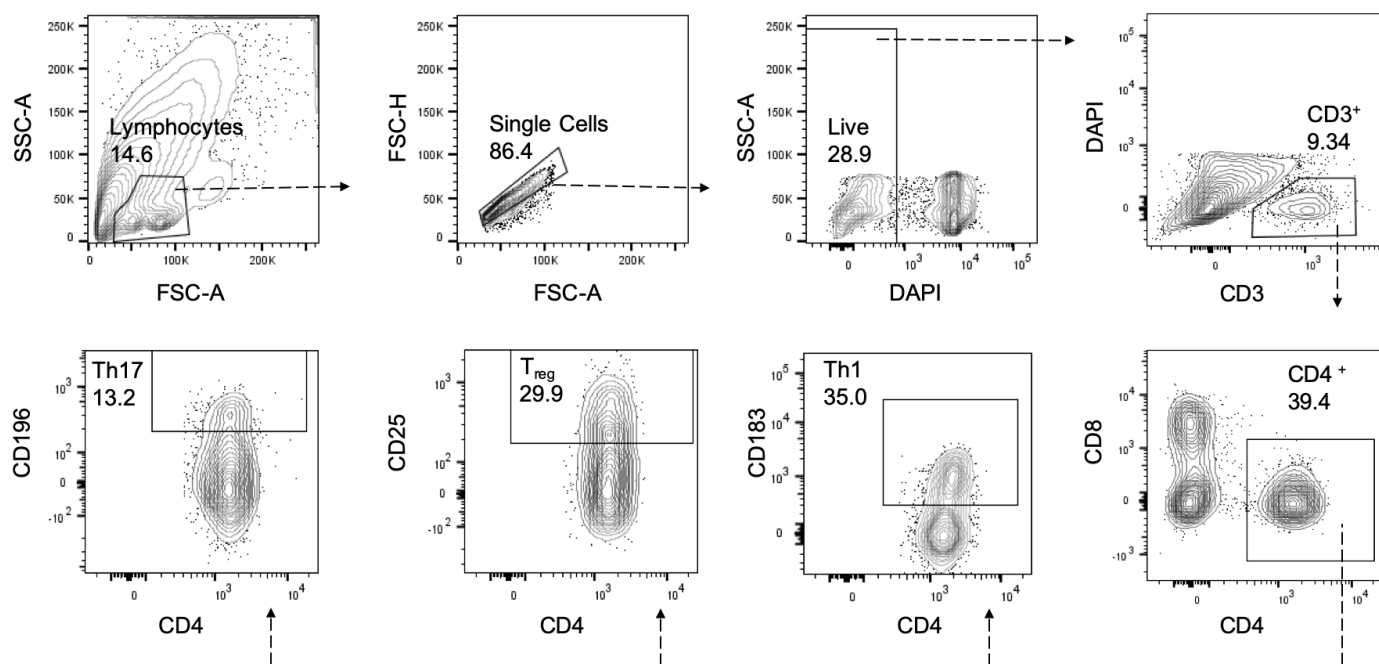


Figure S2. Gating strategy used for analysis of different CD4 T helper cell subsets.