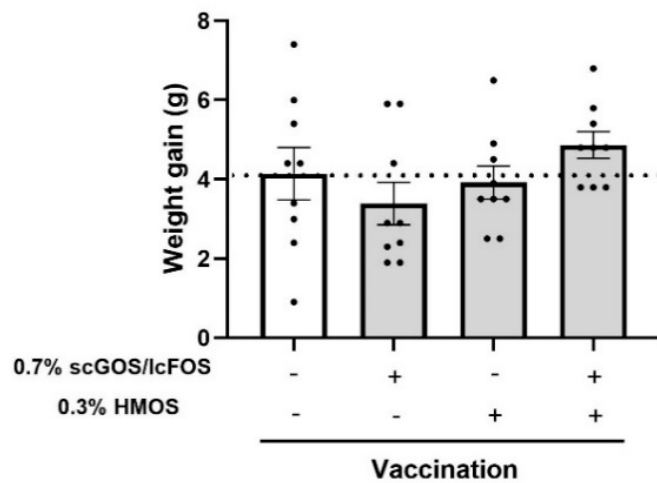


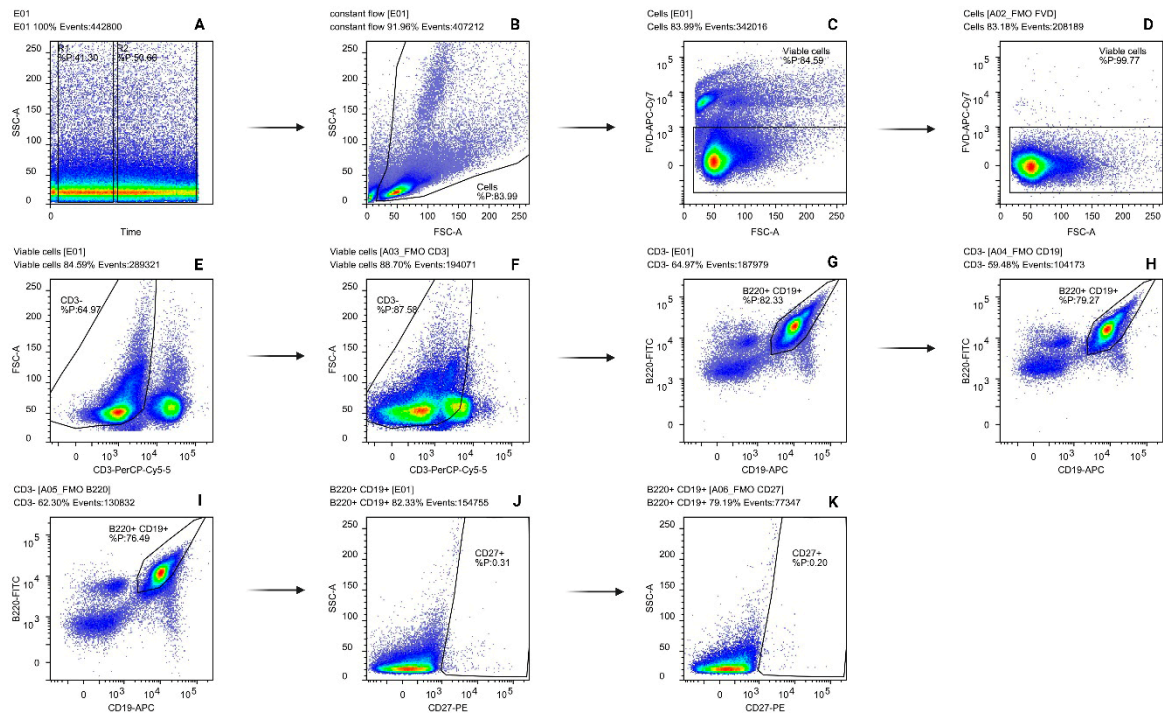
Supplementary Materials

Table S1. Antibody list for flow cytometry analysis.

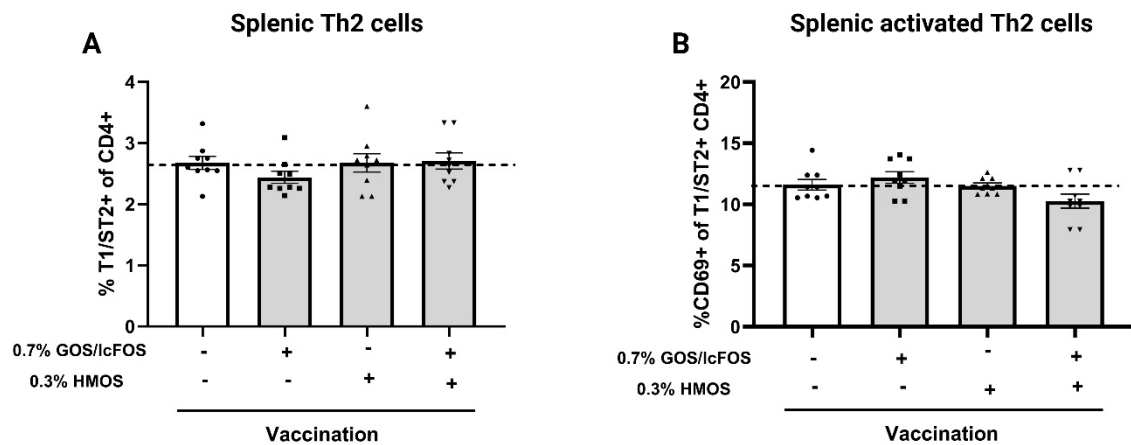
Marker	Label	Detection filter	Catalog number	Supplier	Dilution
Viability	eFluor780	780/60	65-0865-14	eBiosciences	1:1100
Fc receptor (CD16/CD32)	-	-	567021	BD Pharmingen	1:100
T cell markers					
CD3	PerCp-Cy5.5	695/40	100217	BioLegend	1:100
CD4	BV510	525/50	100553	Biolegend	1:160
CXCR3	PE	576/26	12-1831-82	eBiosciences	1:100
T1/ST2	FITC	525/50	101001F	MD Biosciences	1:200
CD69	PE	576/26	12-0691-82	eBiosciences	1:640
Foxp3	FITC	525/50	11-5773	Thermo Fisher	1:100
RoryT	Alexa fluor 647	660/20	562682	BD Pharmingen	1:400
CD25	PerCp-Cy5.5	695/40	101911	BioLegend	1:1280
B cell markers					
CD19	APC	660/20	17-0193-82	eBiosciences	1:75
B220	FITC	525/50	11-0452-82	eBiosciences	1:75
CD27	PE	576/26	12-0271-82	eBiosciences	1:400



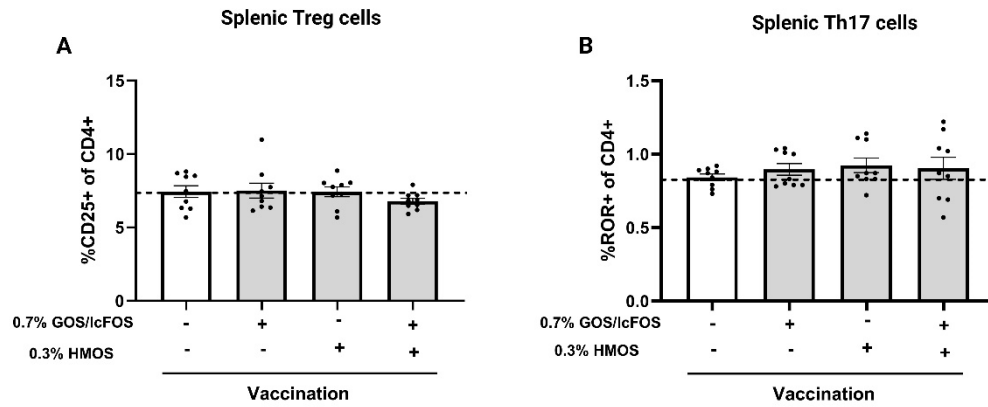
Supplementary Figure S1. Effect of dietary GOS/lcFOS, HMOS, or combination (GFH) on weight gain in vaccinated mice. Data are shown based on mean \pm SEM. n=9.



Supplementary Figure S2. Gating strategy for detecting the splenic B cells (B220+ CD19+) and memory B cells (CD27+ of B220+ CD19+). **(A)** Constant flow of all events **(B)** Excluding the debris from analysis **(C)** Excluding the dead cells (FVD stained) and continue the gating with live cells **(D)** setting the base line for alive cells based on fluorescence minus one (FMO) control **(E)** Excluding the T lymphocytes from analysis via selecting the CD3- cells **(F)** setting the FMO control for selected CD3- cells **(G)** selecting the B cells via B220 and CD19 marker from CD3- cell population **(H)** setting the FMO control for gated CD19+ B cells **(I)** setting the FMO control for the gated B220+ B cells **(J)** selecting the memory B cells via CD27 marker **(K)** setting the FMO control for gated memory B cells (CD27+).



Supplementary Figure S3. Effect of dietary GOS/lcFOS, HMOS, and combination (GFH) on frequency and activation status of splenic Th2 cells in vaccinated mice. **(A)** Percentage of T1/ST2+ (Th2) cells of CD4+ cells **(B)** percentage of activated splenic Th2 cells (CD69+ of T1/ST2+ CD4+ cells). Data are shown based on mean \pm SEM. n=9.



Supplementary Figure S4. Effect of dietary GOS/lcFOS, HMOS, and combination (GFH) on frequency of splenic Treg and Th17 cells in vaccinated mice. **(A)** Percentage of CD25+ (Treg) cells of CD4+ cells **(B)** Percentage of Th17 cells (ROR+ of CD4+ cells). Data are shown based on mean \pm SEM. n=9.