



**Figure e-1 – gating strategy and proportions of immune cells**

**Figure e-1-I Flow cytometry gating strategy**

**I-A: Immune cells.** PBMCs were first gated based upon their forward-scatter (FSC) and side-scatter (SSC). Doublets were excluded from the analysis using FSC-area and FSC-width, as well as SSC-area and SSC-width. CD4 T cells were gated as CD3+CD4+ cells, CD8 T cells were gated as CD3+CD8+ cells, B cells were gated as CD19+, monocytes were gated as CD14+ cells.

**I- B: B cell subsets.** After exclusion of doublets as shown above, B cells were gated as CD19+, and within the B cell gating, naïve (CD27-) and memory cells (CD27+) were identified. Double negative cells (CD27-IgD-) and non-switched memory cells (CD27+‏IgD+‏) were identified. Within the naïve cell gating, transitional cells (T1) were identified as CD38hiCD24hi. Within the memory cell gating, plasma cells were identified as CD38+CD138+.

**I-C- cytokines**: After exclusion of doublets as shown above, B cells were gated as CD19+. Within the B cells, cells were identified as TGFβ+, IL-10+, LTα+, IFNγ+, TNFα+ and IL4+ cells.

**Figure e-1 –II Proportions of the major immune cells in DMF – treated patients.**

PBMCs were collected from 20 PwMS (10 1st line and 10 2nd line therapy) at baseline and following 3.5m DMF therapy, and immediately stained with CD3, CD4, CD8, CD19 and CD14 and analyzed by flow cytometry. **A,B,D,E**-Results are presented as % of PBMCs. **C-**ratio CD4/CD8 T cells. **F**- Correlation (Pearson) between delta change in % B cells after 15w DMF therapy (15w/ 0m) and change in EDSS after 12m DMF therapy (12m - 0m).