

**Supplementary Figure S1.** (A) NR4A1 expression by human blood B-cells following 3 h incubation in absence or presence of PMA/ionomycin. The REA human IgG1 clone directed against mouse NR4A1 (Nurr77) cross-reacts with human, as specified by Miltenyi Biotec. (B) This has been verified by flow-cytometry on ex vivo human peripheral blood mononuclear cells. Data are representative of at least 3 independent experiments. Medium alone (MA).
Supplementary Figure S2. RNA-Seq analyses of expression of Breg associated molecules by ex vivo human blood marginal zone (MZ) and precursor-like MZ B-cells. Data are presented as mean value for 3 healthy donors ± SD.
Supplementary Figure S3. Flow-cytometry analyses of blood and tonsil marginal zone (MZ) B-cells. (A) Tonsil ex vivo unstimulated precursor-like MZ B-cells were analyzed for expression of NR4A1 and CD83, and cells co-expressing NR4A1 and CD83 were analyzed for their expression of CD39 and CD73 (top panels). On the other hand, precursor-like MZ B-cells were analyzed for expression of CD39 and CD73, and double positive cells were assessed for NR4A1 and CD83 co-expression (lower panels). Data are representative of 3 healthy donors. (B) Flow-cytometry analysis of NR4A3 and CD83 co-expression by tonsil ex vivo unstimulated MZ, precursor-like and total B-cells. Data is preliminary and representative of one healthy donor. (C) Blood ex vivo unstimulated MZ and precursor-like MZ B-cells were analyzed for expression of NR4A1 and CD83, and cells co-expressing NR4A1 and CD83 were analyzed for their expression of CD39 and CD73 (top panels). On the other hand, MZ and precursor-like MZ B-cells were analyzed for expression of CD39 and CD73, and double positive cells were assessed for NR4A1 and CD83 co-expression (lower panels). Data are representative of 5 healthy donors.