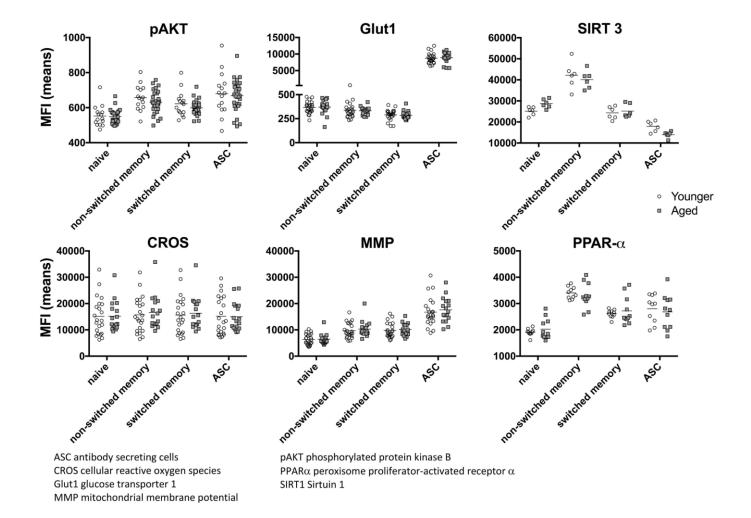


**Supplementary Figure 1. Gating strategy for B cell subsets.** PBMCs were stained with antibodies to CD3 and CD14 both labeled with Pacific Blue, a live cell stain, antibodies to CD19 (Qdot 655-A), IgD (PE-Cy7), CD27 (Qdot 800-A), CD38 (PerCP-Cy5-5-A) and CD20 (Qdot 565-A). Cells were first gate on lymphoid cells, then on singlets (not shown), live cells, CD3 CD14 cells and CD19 B cells. B cells were gated onto IgD cells to identify CD27 CD38 mature naïve B cells and CD27 CD38 unswitched memory B cells, IgD cells were used to identify CD20 and CD20 cells. CD20 cells were used to identify CD27 CD38 switched memory B cells and CD20 cells were used to identify CD27 CD38 ASCs. The sample was collected at v1 from an aged individual.



**Supplementary Figure 2.** Metabolic phenotypes of B cells. Graphs show mean fluorescent intensity (MFI) of stains for the indicated markers in or on different B cell subsets, i.e., naïve B cells (IgD<sup>+</sup>CD19<sup>+</sup>CD27<sup>-</sup>CD38<sup>-</sup>), unswitched memory B cells (IgD<sup>-</sup>CD20<sup>+</sup>CD19<sup>+</sup>CD27<sup>+</sup>CD38<sup>-</sup>) and ASCs (IgD<sup>-</sup>CD20<sup>-</sup>CD19<sup>+</sup>CD38<sup>+</sup>CD27<sup>-</sup>) of younger (open circles) or aged (grey squares) individuals. Graphs show results for individual samples with means.