

## **Supplementary Figure S1**

(A) Tumor volume measurements from immunocompetent (FVB/129P) and immunodeficient (SCID) mice treated with vehicle or olaparib along with an isotype (iso) control or an anti-CD8 antibody. (B) Isotype- or anti-CD8-treated tumors were harvested at 5 days and subjected to flow cytometry. Scatter plot demonstrates significant reduction in CD8<sup>+</sup> T cell numbers in mice treated with the CD8-depleting antibody. Also shown is a representative dotplot of CD4 vs CD8 cells in control and anti-CD8 antibody-treated mice.(C) Vehicle or olaparib-treated tumors were harvested at 0, 8 and 72h (*left panel*) or 10 days (*right panel*) after treatment and subjected to immunohistochemical analysis for CD8 expression. Statistical analyses were performed using one-way ANOVA with Tukey's post-hoc test (*left panel*) or an unpaired test (*right panel*). (D) Tumors from 9 vehicle or olaparib-treated mice were harvested 5 days and subjected to flow cytometry. Scatter plots show CD4<sup>+</sup> cells, CD4<sup>+</sup> T regulatory (Tregs) cells and the ratio of CD8 to Tregs. Histogram shows the proportion of different cell types as % of total live events. Error bars represent SD. Statistical analyses were performed using unpaired tests (with Welch's correction if variances were significantly different). (E) Additional independent repetitions (experiment 1 and 2) of flow cytometric T cell analysis in vehicle and olaparib-treated tumors. CD49b<sup>+</sup> (natural killer; NK) cells and granzyme B<sup>+</sup> NK cells are also shown.