**Supplementary Figure Legend**

**Supplementary Figure 1. BP cells behave like classic BRAFV600E melanomas after BRAF inhibition.** BP cells grown in vitro were treated with increasing concentration of PLX4720 and proliferation was measured by the CellTiter-Glo Luminescent Cell Viability Assay (Promega). Average luminesence is assessed. Representative of 3 experiments performed in triplicate.

**Supplementary Figure 2. Subcutaneously implanted BP cells develop into tumors.**

8x105 BP cells were given to C57BL/6 subcutaneously. After ~3 weeks mice were sacrificed and H&E staining was performed on FFPE. 10X and 40X representative images are shown.

**Supplementary Figure 3. BRAF inhibition is associated with an increase in density of tumor-infiltrating T cells.**

8x105 BP cells were given to C57BL/6 subcutaneously and BRAFi was initiated at concentrations of 200 or 417 ppm (day 0) when tumors reached ~100mm3. Subcutaneously implanted BP tumors were harvested 3 or 7 days after start of BRAFi administration. Formalin fixed paraffin embedded (FFPE) tumor sections were evaluated for CD3 expression by immunohistochemistry. Representative images are shown. Scale bar, 50 M.

**Supplementary Figure 4. Kinetics of functional CD8 T cell markers.**

Experiment was performed as in Supplementary Figure 3. Single cell suspensions were obtained from the tumor on day 3 or day 7 after initiation of BRAF inhibitor and analyzed by flow cytometry. A-B, Percentage of CD8+ T cells that express Granzyme B (A) or Ki-67 (B). \*, p<.05

**Supplementary Figure 5. BRAF inhibition is associated with an increase in overall PD-L1 and PD-L2 expression in the tumor.**

Experiment was performed as in Supplementary Figure 3. Total RNA (250 ng) was used as template and Superscript VILO cDNA Synthesis Kit (Invitrogen) was used to generate cDNA. Quantitative real-time PCR was performed on an Applied Biosystems Vii7 Real-Time PCR System using TaqMan Primers (ABI). Comparison of expression of PD-L1(Mm00452054\_m1 Cd274*)* and PD-L2(Mm00451734\_m1 Pdcd1lg) mRNA were analyzed and Ct values normalized to untreated samples relative to GAPDH (Mm99999915\_g1 Gapdh) expression using the ΔΔCt method.

**Supplementary Figure 6. Cell type specific changes in PD-L1 expression after BRAF inhibitors.**

Experiment was performed as in Supplementary Figure 3. A-B, Single cell suspensions were obtained from the tumor on day 3 (A) or day 7 (B) after initiation of BRAF inhibitor and analyzed by flow cytometry for expression of PD-L1 on different cell types. Expression was assessed on endothelial cells (CD45-CD31+CD105+), lymphatic endothelial cells (CD45-Lyve1+), epithelial cells (CD45-EpCAM+), cytotoxic T cells (CD45+CD3+CD8+), myeloid cells (CD45+CD11b+), and lineage negative cells (negative for all of the previous markers).

**Supplementary Figure 7. PD-1 or PD-L1 blockade synergy with BRAF inhibitors is associated with increased density of tumor-infiltrating T cells.**

8x105 BP cells were given to C57BL/6 mice subcutaneously and BRAFi was initiated (200 ppm) at day 0. 100g of anti-PD-1 (29F.1A12), 200g anti-PD-L1 (10F.9G2), or isotype antibody was administered i.p. at days 1, 3, and 5. IHC for CD3 cells within tumors of mice given BRAFi plus anti-PD-1, anti-PD-L1 or control mAb are shown. Tumors harvested at time of sacrifice and were analyzed for CD3 expression by IHC on FFPE sections and representative images are shown.