SUPPLEMENTARY FIGURE LEGENDS

Supplementary Figure 1: Characterization of the novel dTG-IDH1^{R132H} mouse model. (A) Two dTG-IDH1^{R132H} single-cell clones were cultured in regular growth media or in the presence of 50ng/ml IFNγ for 72hrs. The cell-surface expression levels of HLA-A2 and HLA-DR were evaluated by flow cytometry at baseline (red and orange histograms) or in the presence of IFNγ (blue and green histograms). **(B, C)** 10-week-old dTG mice received intracranial injections of dTG-IDH1^{R132H} cells (clone 2), and tumor sizes were evaluated by bioluminescence imaging (BLI) every 3-4 days. **(B)** Example BLI raw photographs of tumor-bearing mice. **(C)** Summary quantification of dTG-IDH1^{R132H} clone 2 growth rate.

Supplementary Figure 2: Inhibition of 2-HG production by AG-881 does not alter the tumor-infiltrating myeloid cell population. Mice bearing dTG-IDH1^{R132H} tumors were treated daily with 10mg/kg AG881(n=5) or vehicle (n=4) for 14 days. Tumor samples were collected and CD11b^{+} myeloid cells were analyzed by flow cytometry for the expression of **(A)** pro-inflammatory markers and for the overall accumulation of **(B)** tumor-associated macrophages, **(C)** monocytic-MDSC (M-MDSC), **(D)** polymorphonuclear-MDSC (PMN-MDSC), and **(E)** microglia.

Supplementary Figure 3: Antibody treatment regimen successfully depletes CD4^{+} and CD8^{+} T-cells. Mice were treated as described in Fig. 4A. Blood was collected from two animals per group via saphenous vein puncture 4 days after the second dose of depleting antibodies. The frequency of CD8^{+} and CD4^{+} cells among CD3^{+} T-cells was evaluated via flow cytometry.

Supplementary Figure 4: Evaluation of TILs by ELISPOT for their reactivity to the MHC class I and II peptide vaccines. (A) Schematic representation of TIL isolation, *ex vivo*

restimulation, and ELISpot assay set-up. **(B)** Raw ELISpot data of TILs co-cultured with peptide-loaded APCs for 36hrs. Each column represents a single mouse. Rows A and B represent negative and positive controls, respectively. The remaining nine rows represent different co-culture conditions in technical triplicates. **(C)** Quantification of data from **(B)**. Number of spots in co-culture wells were normalized by subtracting the average number of spots in the "no stim" and "APCs only" (not shown) wells for each column. Plotted data represents [normalized # spots "APCs+(TAAs or R132Hp)"] – (normalized # spots "APCs"). **(D)** Expression of HLA-DR on dTG-IDH1^{R132H} tumor cells isolated from mice treated with AG-881 or vehicle (as described in Fig. 3).

Supplementary Figure 5: Tumor and immune cells express human HLA markers. Tumor samples were dissociated and analyzed by flow cytometry for the expression of HLA-A2 (antibody clone BB7.2) and HLA-DR (clone L243) on the surface of tumor cells **(A)** and tumor-infiltrating immune cells **(B)**. Tumor cells were gated as follows: GFP^{+}→ single cells → viability dye$^{(neg)}$ → CD45$^{(neg)}$. Immune cells were gated as follows: single cells → CD45^{+}, viability dye $^{(neg)}$