

Figure S1. TNB-585 mediates killing of LNCaP tumor cells at multiple E:T ratios Dose-response curves and corresponding EC₅₀ values of TNB-585-mediated LNCaP tumor cell killing at multiple E:T ratios ranging from 2:1 to 10:1 are shown. Tumor killing was measured using WST-1 following incubation of T cells and LNCaP cells with increasing concentrations of TNB-585 for 48 hours at 37°C.

Figure S2. TNB-585 treated spheroids stain positively using trypan blue. Spheroids were treated with TNB-585, PC, or NC along with healthy donor PBMCs at an E:T ratio of 1:1 for 4 days at 37°C. Following incubation, the spheroids were stained with trypan blue and visualized under a microscope at 4x magnification to qualitatively assess tumor killing. Representative images are shown.

Figure S3. TNB-585 induces lower cytokine release ex vivo compared to the PC. TNB-585, PC, or NC were added to dissociated tumor cells from freshly procured prostatic adenocarcinoma tissue (i-iv) or thawed previously dissociated prostatic adenocarcinoma (v-vii) and incubated without additional human PBMCs (i, ii) or with huPBMC at an effector to target cell ratio (E:T) for 24 hours at 37°C and 8% CO₂. Cytokines were measured from cell supernatants using MSD technology.

Figure S4. TNB-585 facilitates immune cell infiltration into tumors in vivo NCG mice were engrafted with 2×10^6 C4-2 tumor cells followed by injection of either resting T cells or pre-activated PBMCs. Treatment began 6 days post tumor engraftment when the average tumor volume was $\sim 50\text{mm}^3$. Mice were treated twice per week for a total of 5 doses. At the end of study, tumors were harvested and stained using an anti-CD45 antibody to evaluate immune cell infiltration. Representative images are shown for TNB-585, PC, or NC using either pre-activated PBMCs or resting T cells as effectors.