



**Supplemental Figure 1.** Ten NSG and NSG-HLA-A2/HHD mice received sublethal total body irradiation (2.5 Gy) and were infused 24h later with 2x10<sup>6</sup> human PBMCs intravenously. PBMCs were isolated from an HLA-A2<sup>-</sup> healthy donor. Mice were sacrificed at day 14 to collect their spleen and lungs. Spleen and lungs homogenates were respectively pooled (10 NSG and 10 NSG.A2) and 1 million of CD4<sup>+</sup> and CD8<sup>+</sup> T cells were sorted by flow cytometry. DNA was extracted immediately after sorting and TCRB sequencing was performed by Adaptive Biotechnologies. (A-B) TCRB V family usage of CD4<sup>+</sup> T cells in donor PBMCs (orange) and spleen of NSG (purple) and NSG-HLA-A2/HHD mice (green) (A) and of CD8<sup>+</sup> T cells in donor PBMCs (orange), lungs of NSG (purple) and NSG-HLA-A2/HHD (green) and in spleen of NSG (blue) and NSG-HLA-A2/HHD mice (orange) (B).