

**Supplementary Figure 6** Example of the gating strategy used for sorting circulating CD8<sup>+</sup> lymphocytes based on PD-1 expression. Flow cytometry analysis of one representative melanoma patient is shown. CD8<sup>+</sup> cells were positively selected from a pre-treatment leukapheresis product using CD8 microbeads, and then stained with fluorochrome-labeled anti-CD3, CD8, and either isotype control (IgG4-AF647) or anti-PD-1 (AMP-514 AF647) antibody. Dot plots of the CD8-enriched cells stained with isotype control (a), and anti-PD-1 (b) are displayed. The hierarchy of the gating strategy is depicted from left to right. The gate used to sort for CD8<sup>+</sup>PD-1<sup>+</sup> cells was set based on the isotype control. (c) The post-sort purity for the CD8<sup>+</sup>PD-1<sup>hi</sup> sorted cells is shown.