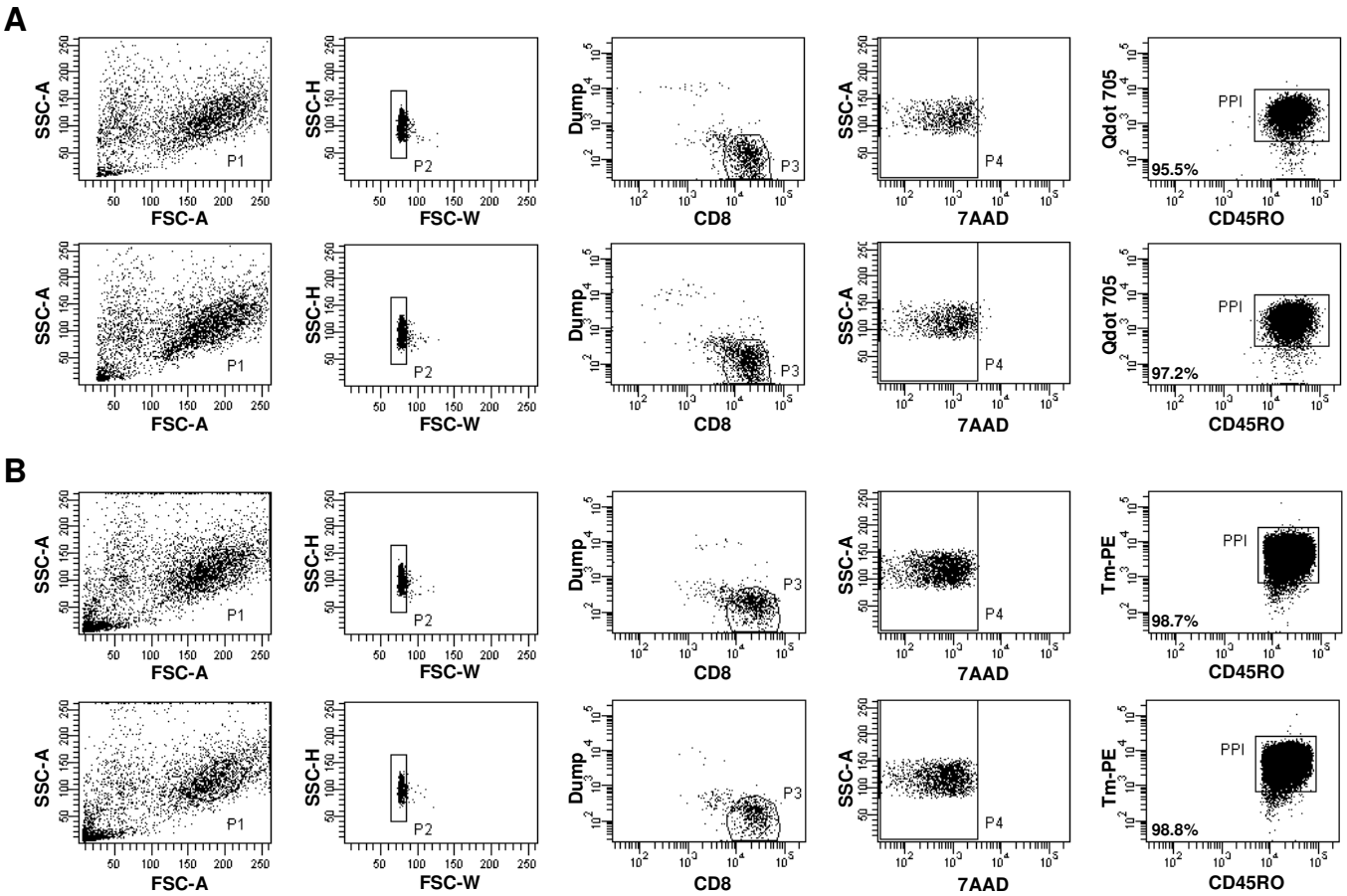
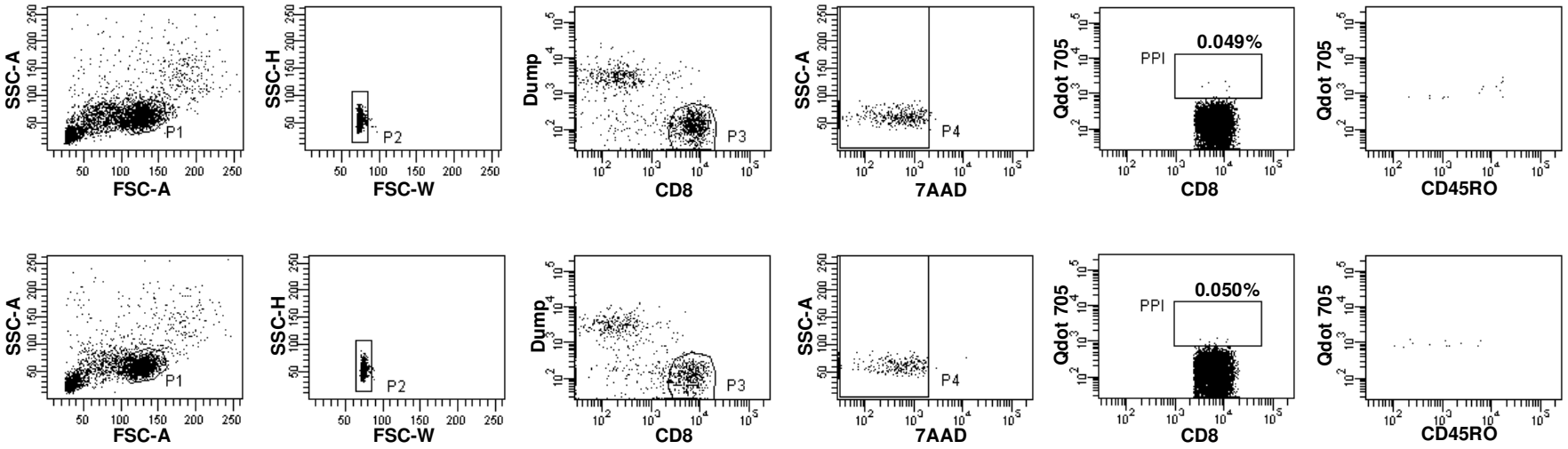
**Supplementary figure 1.** $PPI_{15-24}$ CD8 T cell clone stained with Qdot 705 (A) or with tetramer-PE (B). Viable CD8+ single T-cells were analyzed by gating lymphocytes on the basis of FSC-A and SSC-A. Subsequently single cells were gated, CD8-APC positive but dump-channel-FITC (CD4+ CD14+ CD16+ CD20+ CD40+) negative cells were gated, of which the 7-AAD positive cells were gated out. Within the viable CD8+ single T-cells, cells recognizing the $PPI_{15-24}$ epitope (Qdot 705 or tetramer-PE) were analyzed for CD45RO expression. Duplicates of each experiment are shown.



**Supplementary figure 2.** Reproducibility of the Diab-Q-kit staining. PBMCs of an islet-cell transplanted patient was stained in duplicate to detect the presence of antigen-specific CD8 T cells against the $PPI_{15-24}$ epitope. $PPI_{15-24}$ positive T cells were also analysed for CD45RO expression. The numbers plotted near the gates indicate the percentage of multimer-staining CD8 T-cells in the total CD8 T-cell population.



**Supplementary Figure 3**. Repeated experiments of blood samples of two recent-onset type 1 diabetic patients stained with HLA-A2 multimers loaded with the IA-$2_{797\text{-}805}$ peptide epitope. The numbers plotted near the gates indicate the percentage of multimer-staining CD8 T-cells in the total CD8 T-cell population.