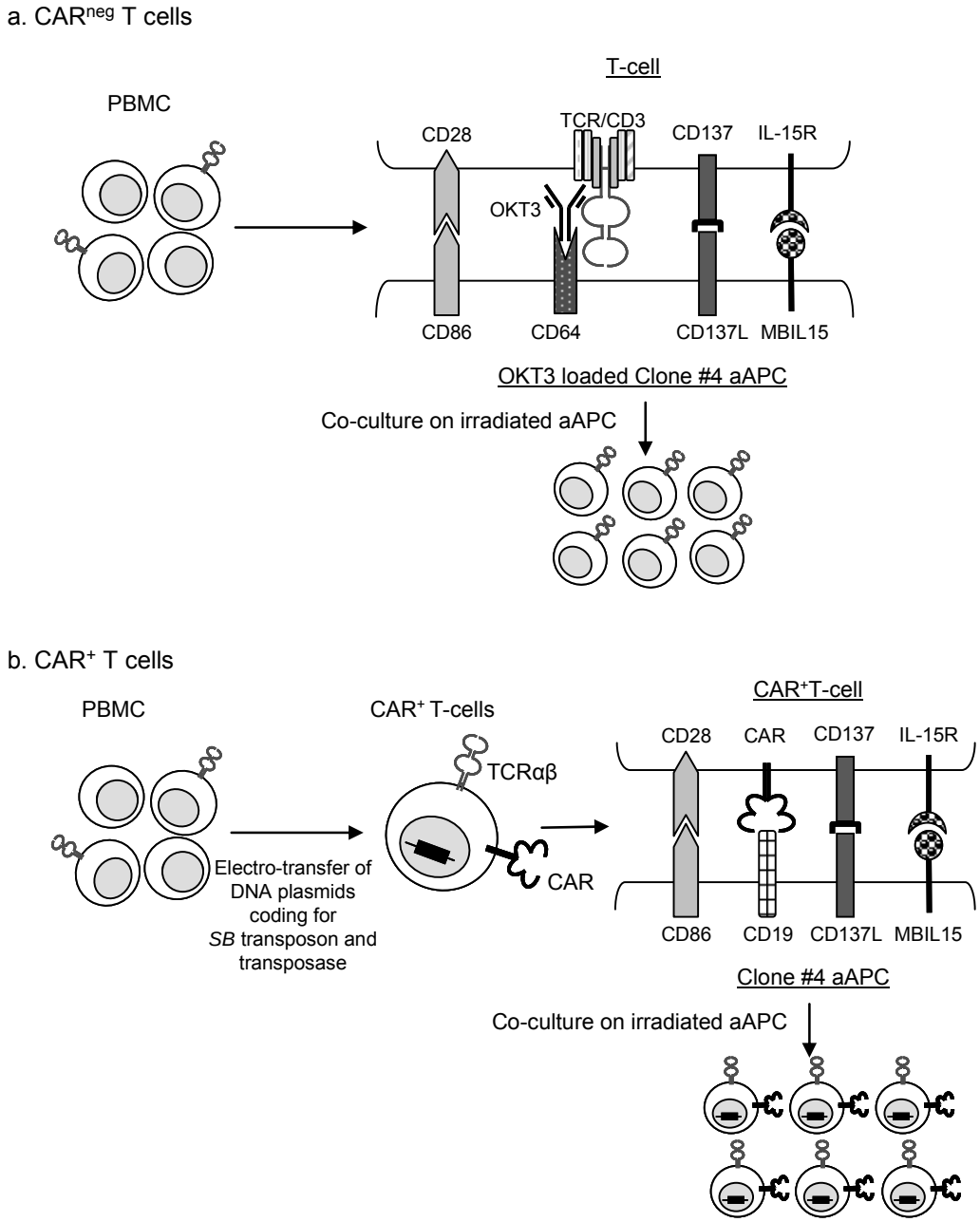
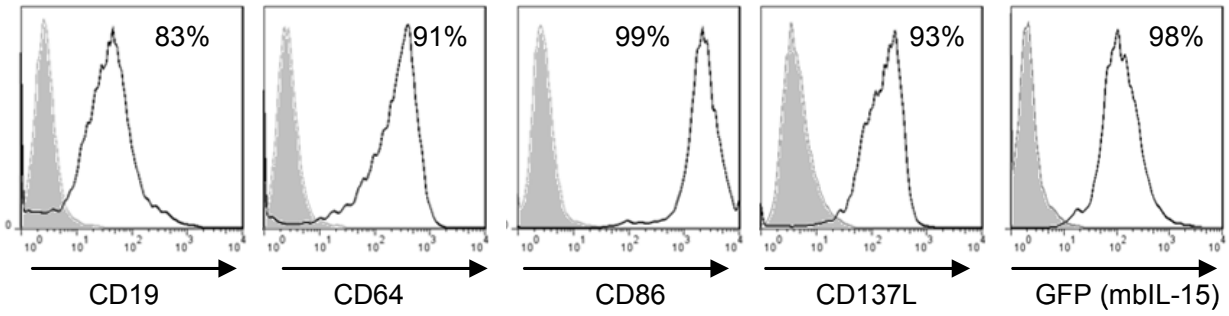
SUPPLEMENTAL DATA



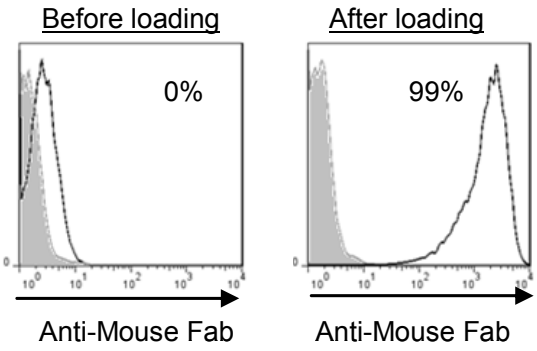
Supplemental Figure 1

Schematic of the approach to genetically modify and propagate T-cells from PBMC. (a)T-cells were propagated by stimulation with OKT3 loaded γ-irradiated aAPC (clone #4) in the presence of soluble IL-2 (b) DNA plasmids coding for SB transposon (CD19RCD28) and SB transposase (SB11) were electro-transferred into primary human T-cells. CAR^+ T cells were selectively propagated by repeated additions of γ-irradiated aAPC (clone #4) in the presence of rhIL-2.

a.



b.



Supplemental Figure 2

Characterization of aAPC clone #4. (a) Flow cytometry was used to compare expression of CD19, CD64, CD86, CD137L and MBIL-15 between parental K562 (grey shaded histogram) and K562-aAPC clone #4 (black open histogram). MBIL-15 is composed of human IL-15 peptide fused to modified human IgG4 Fc region and CD4 transmembrane domain and was detected by presence of EGFP (co-expressed with MBIL-15 after IRES element). aAPC were used to co-culture T-cells if expression of introduced transgenes were ≥ 80%. (b) OKT3 was loaded onto aAPC clone #4 at 1 μg per 10^6 cells. Flow cytometry data before and after OKT3 loading detected by antibody specific for mouse Fab region. No-staining control: grey shaded histogram, stain with anti-mouse Fab: black open histogram.