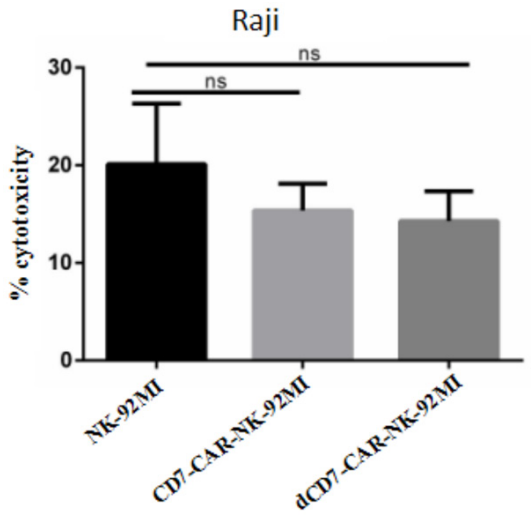

Figure S1. The cytotoxicity of NK-92MI and either CD7-CAR-NK-92MI or dCD7-CAR-NK-92MI cells against Raji cells was detected.

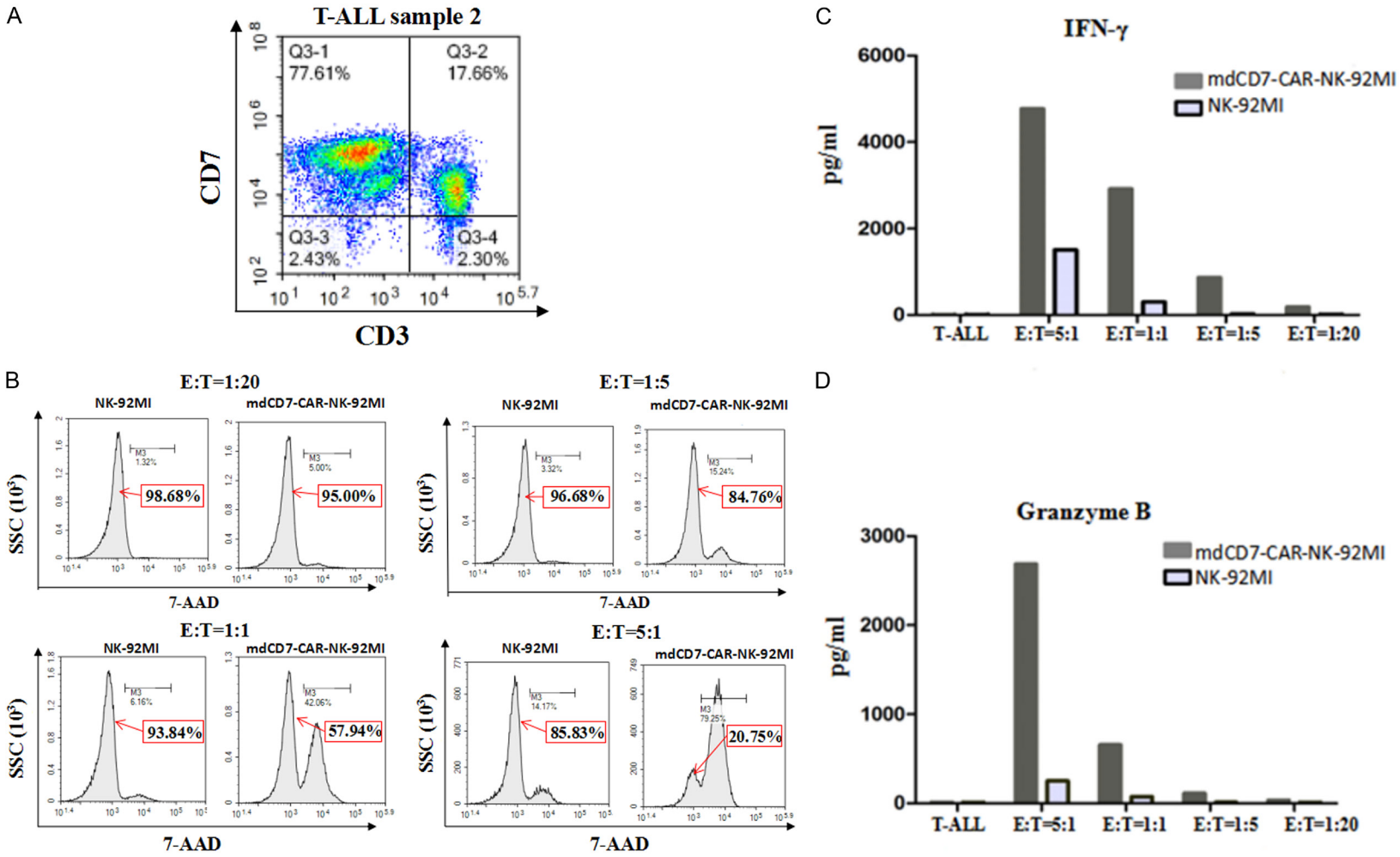

Figure S2. The mdCD7-CAR-NK-92MI monoclonal cell line specifically targeted and eliminated primary CD7⁺ T-ALL tumor cells. A. CD7-expression level in primary T-ALL tumor cells. B. Cytotoxicity of mdCD7-CAR-NK-92MI cells against primary T-ALL tumor cells at different E:T cell ratios, the 7-AAD negative cell population represents the percentage of leftover tumor cells. C. Co-cultures for 24 h at different E:T cell ratios using mdCD7-CAR-NK-92MI monoclonal cell lines against T-ALL primary tumor cells, with detection of IFN-γ concentrations in the supernatant. D. Co-cultures for 24 h at different E:T cell ratios using mdCD7-CAR-NK-92MI monoclonal cell lines against primary T-ALL tumor cells, with detection of Granzyme B concentrations in the supernatant.

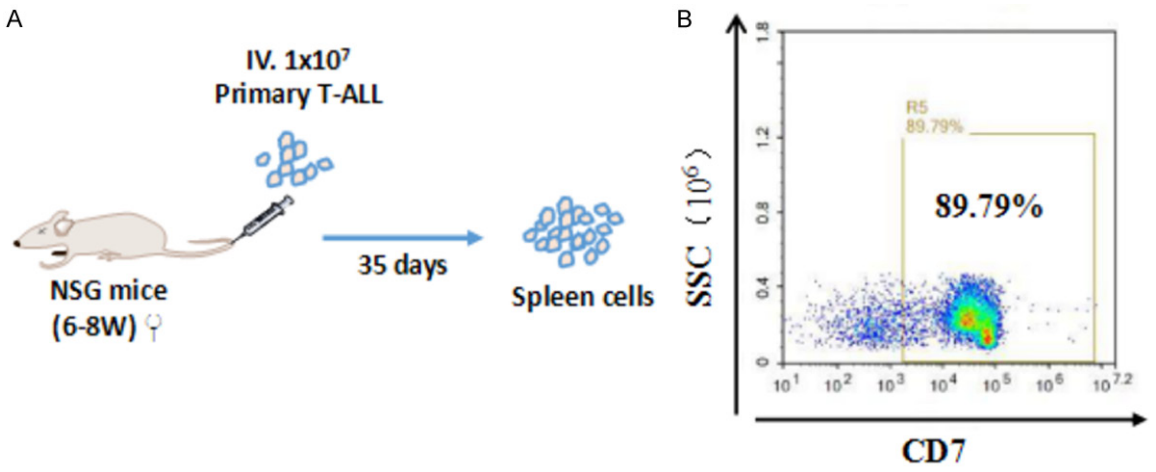

Figure S3. Primary T-ALL tumor cells were expanded in mice. A. Schematic representation of the amplification of primary T-ALL tumor cells in mice. B-NSG mice were injected i.v. with 1 × 10^7 T-ALL tumor cells. After 35 days, the mice were sacrificed and the spleens were collected. B. Flow cytometric analysis of T-ALL tumor cells in mouse spleens.

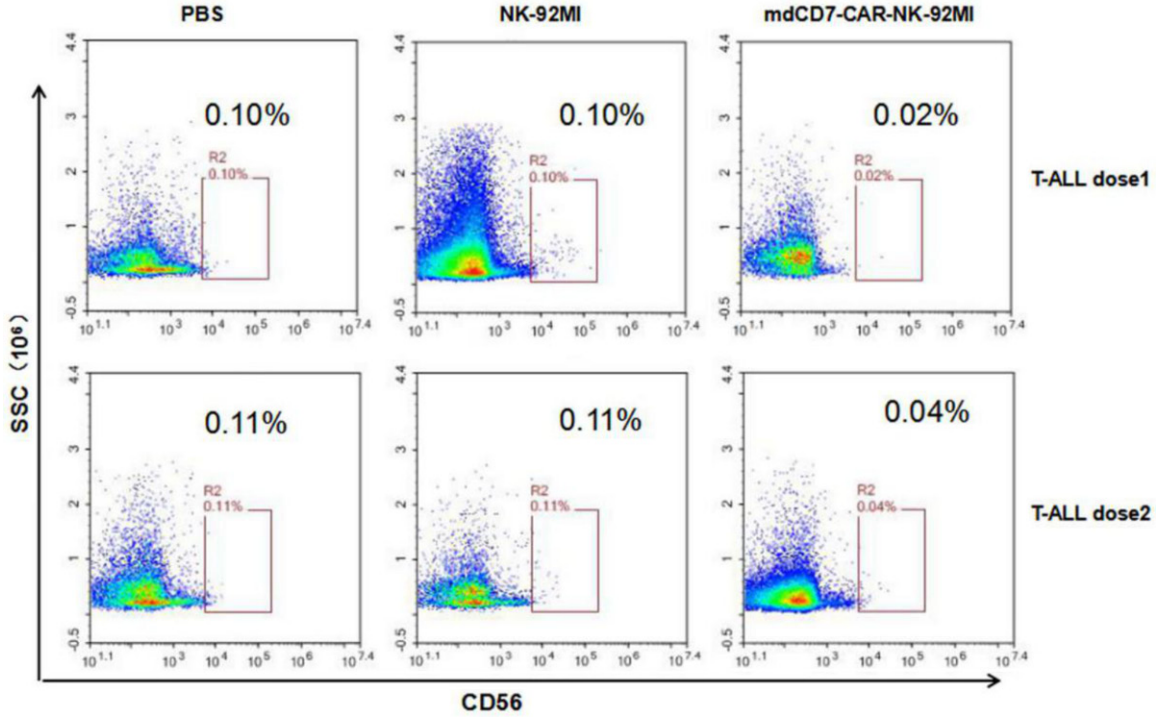

Figure S4. Flow cytometric analysis of NK-92MI cells in mouse peripheral blood three days after the last administration.

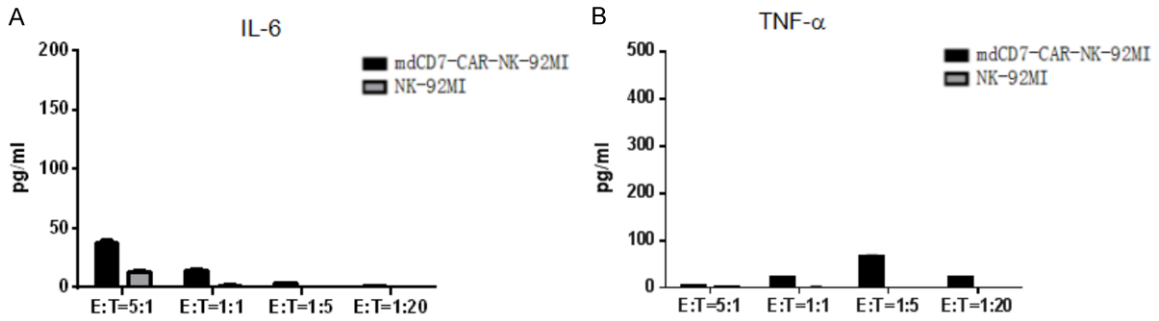

Figure S5. Co-cultures for 24 h at different E:T cell ratios using mdCD7-CAR-NK-92MI monoclonal cell lines against CCRF-CEM cells, with detection of IL-6 concentrations (A) and TNF-α (B) in the supernatant.