SUPPLEMENTAL MATERIAL

Table S1

Monoclonal antibodies utilized for this study.

Antigen	Fluorochrome	Vendor	Clone
CD3	FITC	Miltenyi Biotec	BW264/56
CD3	PerCP-Cy5.5	BD Biosciences	SK7
CD10	PE-CF594	BD Biosciences	HI10a
CD19	FITC	BD Biosciences	4G7
CD19	APC	Miltenyi Biotec	6D5
CD30	FITC	Miltenyi Biotec	Ki-2
CD30	PE	Miltenyi Biotec	Ki-2
CD30	PE	Beckman Coulter	HRS4
CD30	FITC	Dako	BerH-2
CD34	PE	Miltenyi Biotec	AC136
CD34	APC-AlexaFluor750	Beckman Coulter	581
CD38	BrilliantViolet786	BD Biosciences	HIT2
CD45	BrilliantViolet510	BD Biosciences	HI30
CD45RA	BrilliantViolet711	Biolegend	HI100
CD56	PerCP-Cy5.5	BD Biosciences	B159
CD66b	PerCP-Cy5.5	Biolegend	G10F5
CD107a	FITC	BD Biosciences	H4A3
CD133	PE	Miltenyi Biotec	AC133
CD133	APC	Miltenyi Biotec	AC133

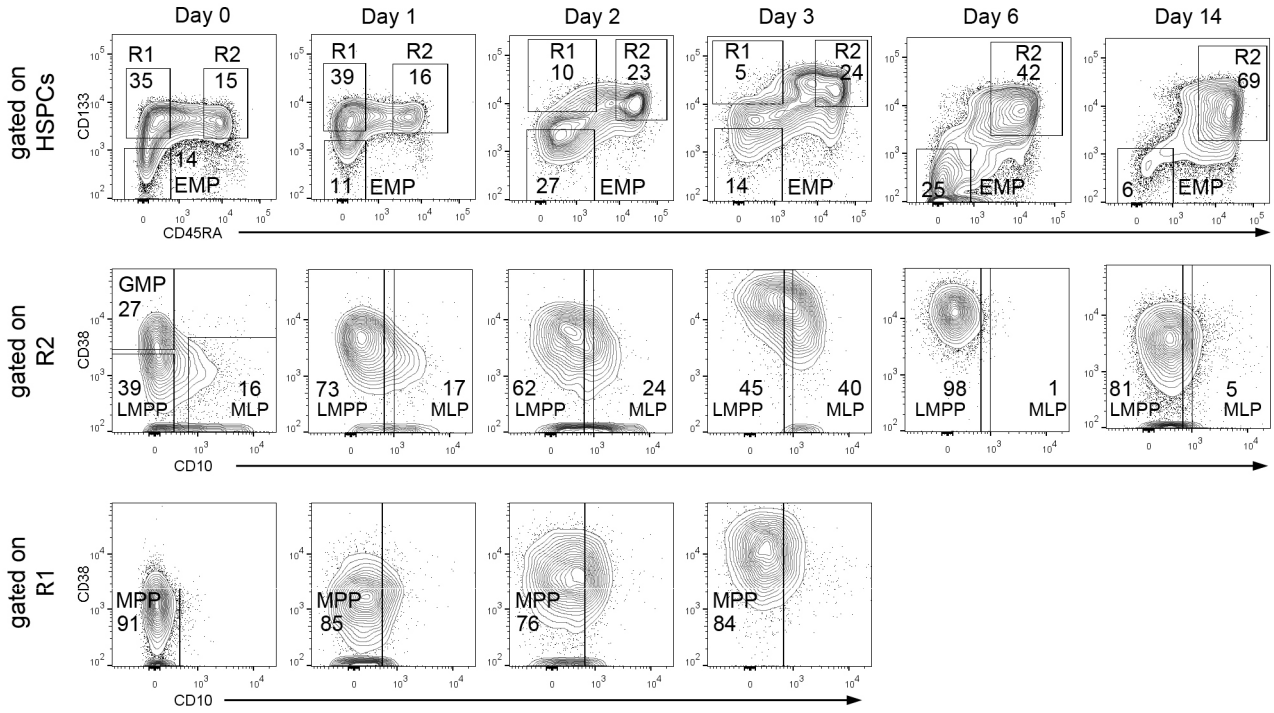
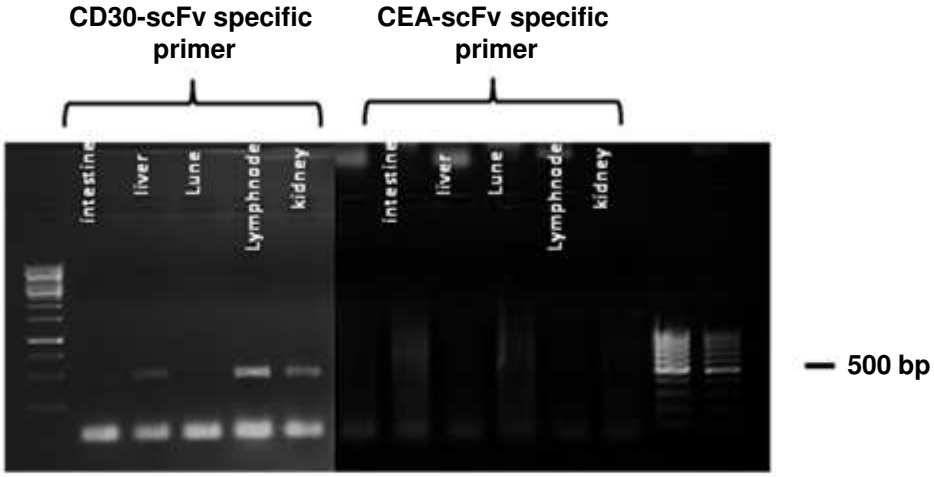


Figure S1:

Gating strategy to identify subsets of HSPCs.
We used the following marker combinations to identify fractions enriched for HSCs/MPPs ($CD34^+CD133^+CD45RA^-CD38^{low}CD10^-$), LMPPs ($CD34^+CD133^+CD45RA^+ CD38^{low}CD10^-$), GMPs ($CD34^+CD133^+ CD45RA^+CD38^+CD10^-$); MLPs ($CD34^+CD133^+CD45RA^+ CD38^{low}CD10^+$) and EMPs ($CD34^+CD133^{low}CD45RA^-$). Since the expression of CD38 after initiation of culture is not indicative to discriminate LMPP and GMP-enriched fractions, we neglected its expression for HSPC subset gating on cultured samples and united LMPP and GMP fractions to an LMPP fraction. A dump channel excluding 7-AAD positive dead cells and lineage (CD3, CD19, CD56, CD66b) positive cells and a $CD45^{dim}$ gate were used for all experiments.

Suppl. Fig. 1

A: anti-CD30 CAR CM3



B: anti-CEA CAR CW1

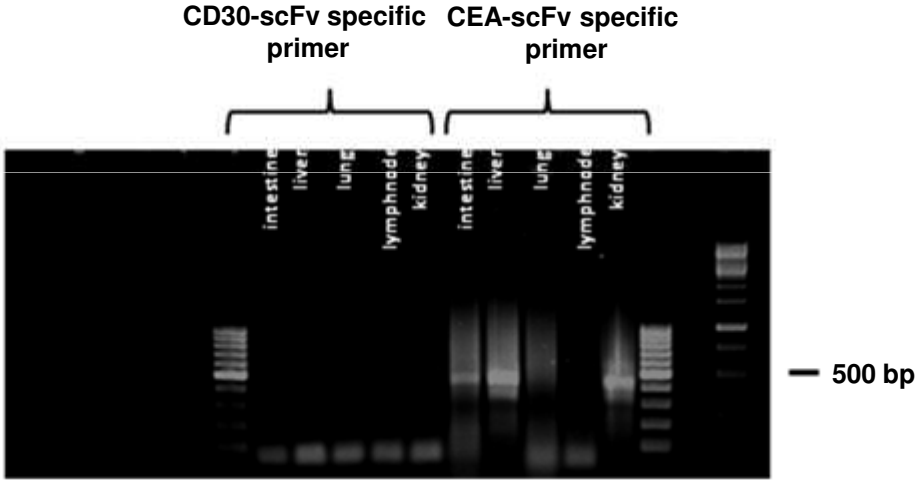


Figure S2:

PCR Detection of the CAR in tissues of CAR T cell engrafted huSCID mice.
The distribution of CAR-enginiered T cells in tissues of humanized mice after adoptive T cell therapy was analysed by reverse transcriptase PCR. RNA from lung, spleen, gut, liver, and lymph nodes of mice was isolated, reverse transcribed into cDNA and amplified using primer oligonucleotides with specificity for seequences of the scFv binding domains of the CAR. PCR bands of about 500 bp were electrophoretically seperated on a 0.7 aggarose gele, visualized by ethidium bromide and recorded.

Suppl. Fig. 2