

Table S1 Search strategy of literatures about chimeric antigen receptor T cell

PubMed

Search terms related to chimeric antigen receptor T cell (N=1956)

("Receptors, Chimeric Antigen"[Mesh]) OR (((((((((((Antigen Receptors, Chimeric[Title/Abstract]) OR (Artificial T-Cell Receptors[Title/Abstract])) OR (Artificial T Cell Receptors[Title/Abstract])) OR (Receptors, Artificial T-Cell[Title/Abstract])) OR (T-Cell Receptors, Artificial[Title/Abstract])) OR (Chimeric T-Cell Receptors[Title/Abstract])) OR (Chimeric T Cell Receptors[Title/Abstract])) OR (Receptors, Chimeric T-Cell[Title/Abstract])) OR (T-Cell Receptors, Chimeric[Title/Abstract])) OR (Chimeric Antigen Receptors[Title/Abstract])) OR (Chimeric Immunoreceptors[Title/Abstract])) OR (Immunoreceptors, Chimeric[Title/Abstract]))

Search terms related to solid tumors (N=4241967)

(((((solid tumor[Title/Abstract]) OR (solid tumors[Title/Abstract])) OR (solid malignancy[Title/Abstract])) OR (solid malignancies[Title/Abstract])) OR ("Neoplasms"[Mesh]) OR ((((((Neoplas*[Title/Abstract]) OR (Tumor*[Title/Abstract])) OR (Cancer*[Title/Abstract])) OR (Malignanc*[Title/Abstract])) OR (Malignant Neoplas*[Title/Abstract])) OR (Neoplas*[Title/Abstract], Malignant[Title/Abstract]))

Combination of two research terms (N=1696)

((("Receptors, Chimeric Antigen"[Mesh]) OR (((((((((((Antigen Receptors, Chimeric[Title/Abstract]) OR (Artificial T-Cell Receptors[Title/Abstract])) OR (Artificial T Cell Receptors[Title/Abstract])) OR (Receptors, Artificial T-Cell[Title/Abstract])) OR (T-Cell Receptors, Artificial[Title/Abstract])) OR (Chimeric T-Cell Receptors[Title/Abstract])) OR (Chimeric T Cell Receptors[Title/Abstract])) OR (Receptors, Chimeric T-Cell[Title/Abstract])) OR (T-Cell Receptors, Chimeric[Title/Abstract])) OR (Chimeric Antigen Receptors[Title/Abstract])) OR (Chimeric Immunoreceptors[Title/Abstract])) OR (Immunoreceptors, Chimeric[Title/Abstract])) AND ((((((solid tumor[Title/Abstract]) OR (solid tumors[Title/Abstract])) OR (solid malignancy[Title/Abstract])) OR (solid malignancies[Title/Abstract])) OR ("Neoplasms"[Mesh]) OR ((((((Neoplas*[Title/Abstract]) OR (Tumor*[Title/Abstract])) OR (Cancer*[Title/Abstract])) OR (Malignanc*[Title/Abstract])) OR (Malignant Neoplas*[Title/Abstract])) OR (Neoplas*[Title/Abstract], Malignant[Title/Abstract]))

Cochrane

Combination terms of chimeric antigen receptor T cell and solid tumors N=133

[(Artificial T Cell Receptors):ti,ab,kw OR (T-Cell Receptors, Chimeric):ti,ab,kw OR (Chimeric T-Cell Receptors):ti,ab,kw OR (Chimeric T Cell Receptors):ti,ab,kw OR (Receptors, Chimeric T-Cell):ti,ab,kw OR (T-Cell Receptors, Artificial):ti,ab,kw OR (Receptors, Artificial T-Cell):ti,ab,kw OR (Artificial T-Cell Receptors):ti,ab,kw OR (Antigen Receptors, Chimeric):ti,ab,kw OR (Chimeric Antigen Receptors):ti,ab,kw OR (Chimeric Immunoreceptors):ti,ab,kw OR (Immunoreceptors, Chimeric):ti,ab,kw] AND [(tumor*):ti,ab,kw OR (neoplas*):ti,ab,kw OR (malignanc*):ti,ab,kw OR (malignant neoplas*):ti,ab,kw OR (neoplas*[Title/Abstract], malignant):ti,ab,kw OR (cancer*):ti,ab,kw OR MeSH descriptor: [Neoplasms] explode all trees]

Embase

Combination terms of chimeric antigen receptor T cell and solid tumors N=4780

('chimeric antigen receptor t-cell'/exp OR 'car engineered t-cell':ab,ti OR 'car modified t-cel':ab,ti OR 'car modified t-lymphocyte':ab,ti OR 'car engineered t-lymphocyte':ab,ti OR 'car t-cell':ab,ti OR 'car t-lymphocyte':ab,ti OR 'chimeric antigen receptor t-lymphocyte':ab,ti) AND ('neoplasms'/exp OR 'acral tumo*':ab,ti OR (embryonal:ab,ti AND 'mixed neoplasms':ab,ti) OR ('germ cell':ab,ti AND 'embryonal neoplasms':ab,ti) OR (glandular:ab,ti AND 'epithelial neoplasms':ab,ti) OR 'hormone-dependent neoplasms':ab,ti OR neoplas*:ab,ti OR 'neoplasms by histologic type':ab,ti OR ('neoplasms, cystic, mucinous,':ab,ti AND serous:ab,ti) OR ('neoplasms, embryonal':ab,ti AND mixed:ab,ti) OR ('neoplasms, germ cell':ab,ti AND embryonal:ab,ti) OR ('neoplasms, glandular':ab,ti AND epithelial:ab,ti) OR 'neoplasms, hormone-dependent':ab,ti OR 'neoplasms, post-traumatic':ab,ti OR 'neoplastic disease':ab,ti OR 'post-traumatic neoplasms':ab,ti OR tumo*:ab,ti)

Web of science

Combination terms of chimeric antigen receptor T cell and solid tumors N=3293

(TS=("chimeric antigen receptor T cell" OR "chimeric antigen receptor T cell therapy" OR "CAR T" OR "CAR-T" OR "CAR-T cell" OR "CAR-T cell therapy" OR "Artificial T-Cell Receptors" OR "Artificial T Cell Receptors" OR "Chimeric T-Cell Receptors" OR "Chimeric T Cell Receptors" OR "Chimeric Antigen Receptors" OR "Chimeric Immunoreceptors") AND TS= ("solid tumor*" OR "solid malignanc*" OR "Neoplas*" OR "cancer*" OR "malignanc*" OR "malignant neoplas*" OR "tumor*")) AND Language : (English)

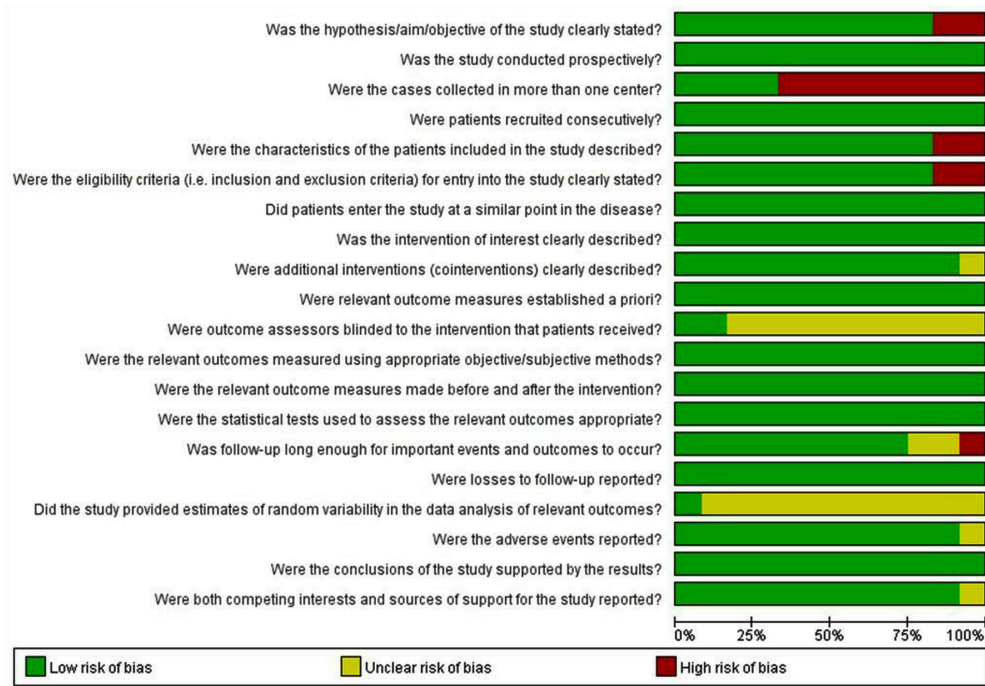


Figure S1 Risk of bias bar-plot across studies.



Figure S2 Risk of bias traffic-light plot within studies.

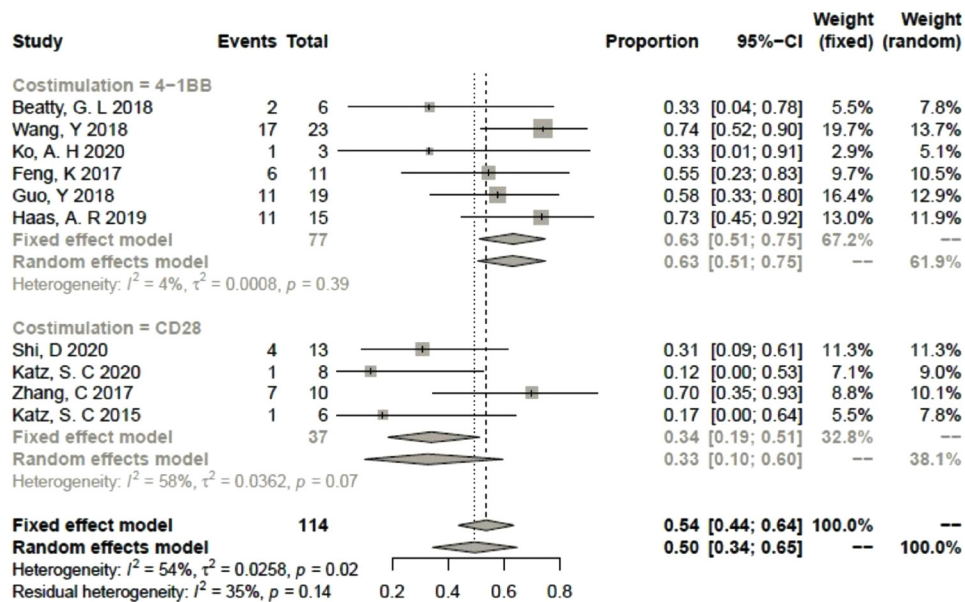


Figure S3 Forest plot for clinical benefit rate and confidence intervals in CAR-T cells with costimulatory domain of 4-1BB or CD28. CI, confidence interval.

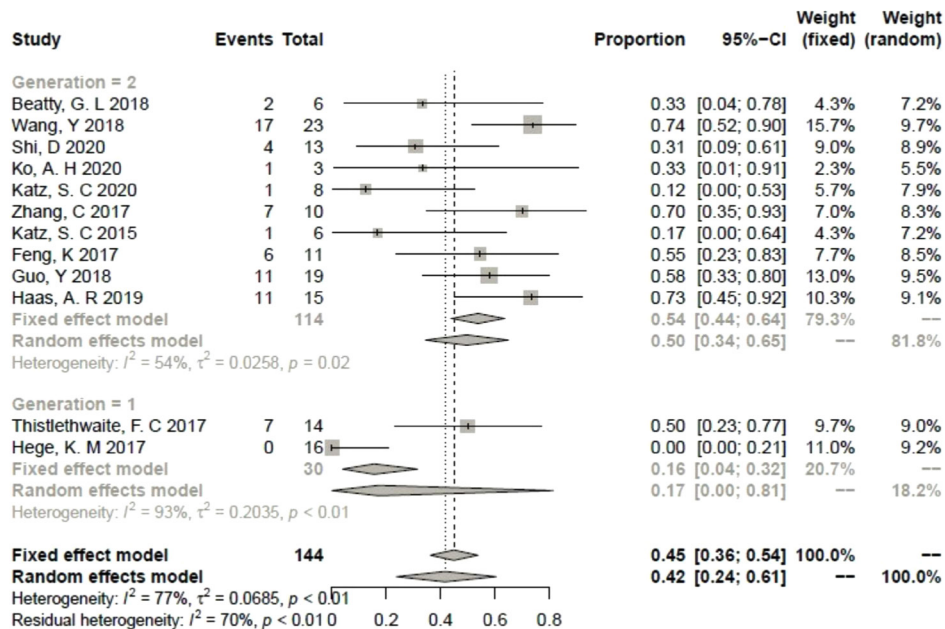


Figure S4 Forest plot for clinical benefit rate and confidence intervals in 1st and 2nd generation CAR-T cells. CI, confidence interval.

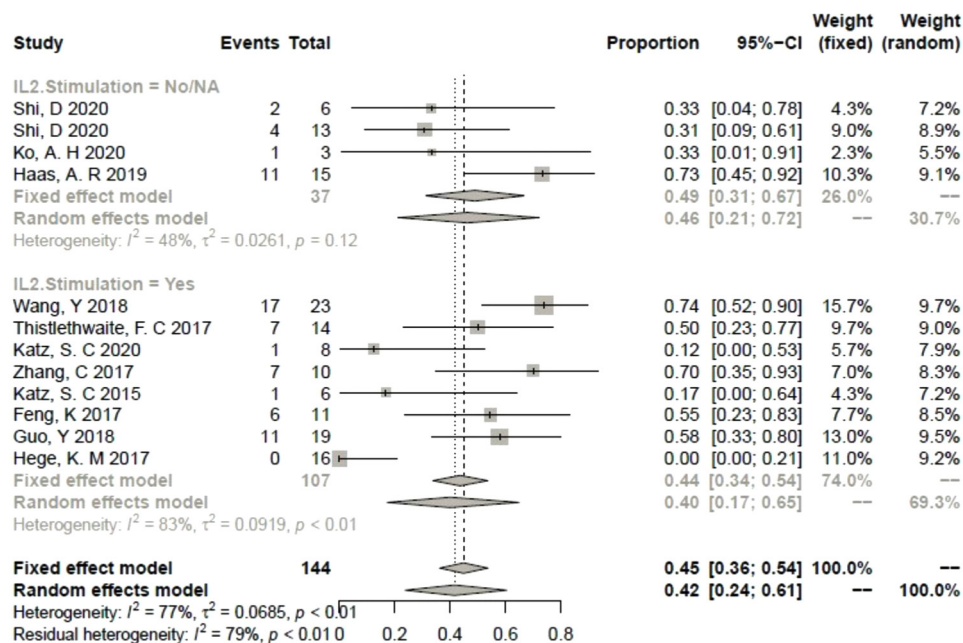


Figure S5 Forest plot for clinical benefit rate and confidence intervals in CAR-T cell product stimulated by IL-2 or not. CI, confidence interval.

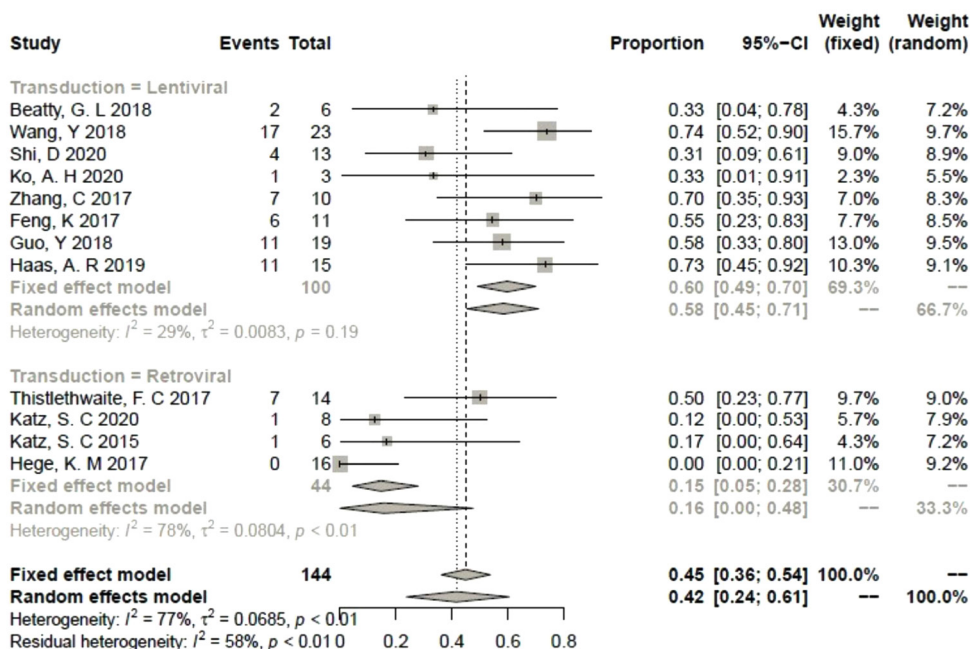


Figure S6 Forest plot for clinical benefit rate and confidence intervals in CAR-T cell transduced by lentivirus or retrovirus. CI, confidence interval.

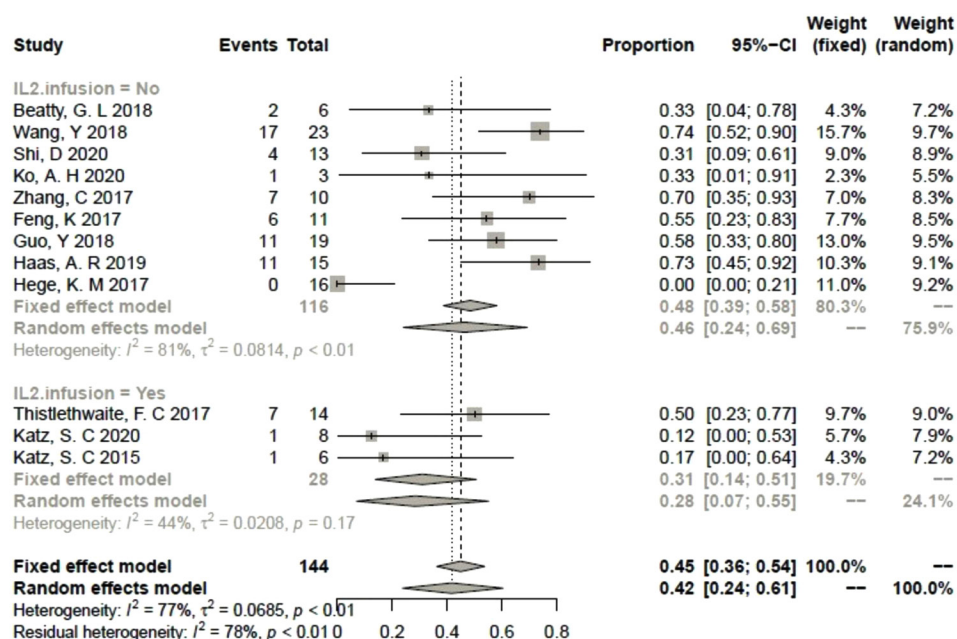


Figure S7 Forest plot for clinical benefit rate and confidence intervals in patients with IL-2 infusion or not during CAR-T therapy. CI, confidence interval.

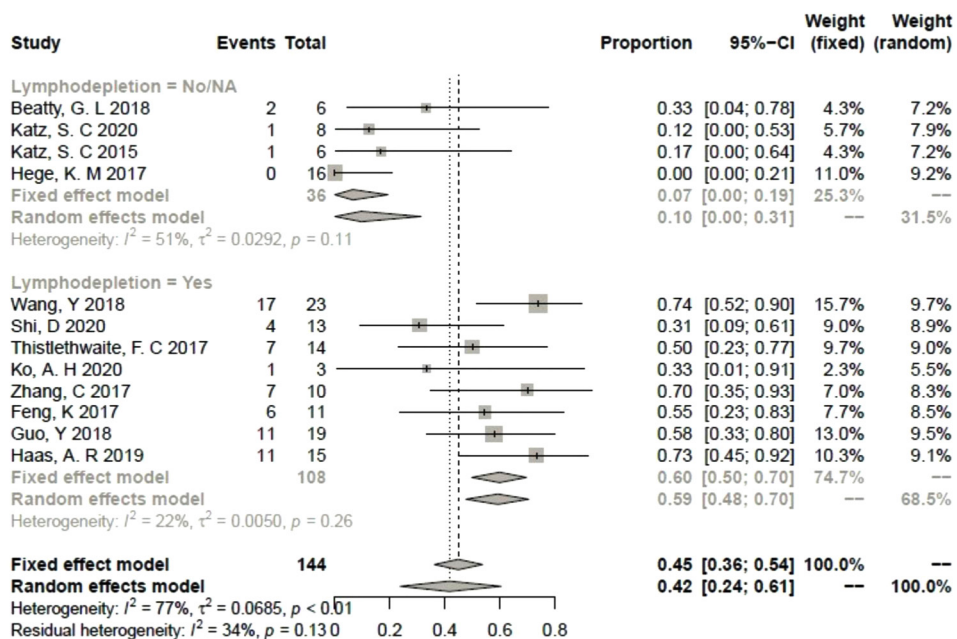


Figure S8 Forest plot for clinical benefit rate and confidence intervals in patients with lymphodepletion or not prior to CAR-T cell therapy. CI, confidence interval.

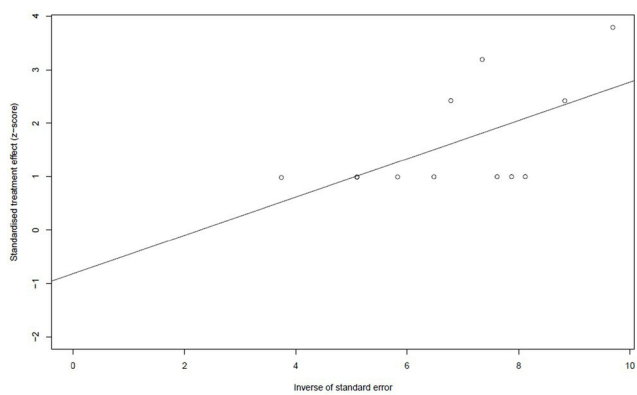


Figure S9 Plot of egger's test of publication bias for meta-analysis of overall response rate in 12 clinical trials.

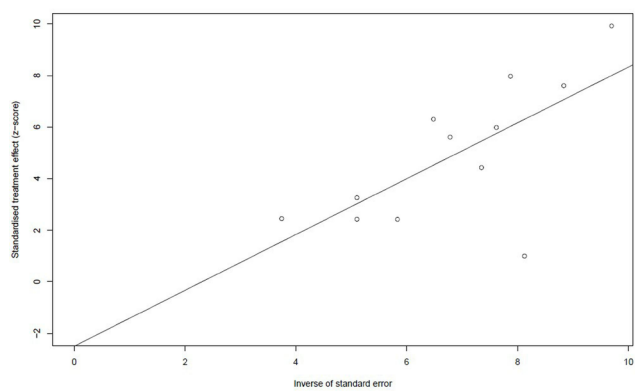


Figure S10 Plot of egger's test of publication bias for meta-analysis of clinical benefit rate in 12 clinical trials.