

Fig S1. CAR T cells were sorted by flow cytometry and the effect of lymphoma exosomes on CAR-T.

(A) CD19 CAR-T cells were sorted by flow cytometry on day 4. (B) CAR-T was exposed to Nalm6-TEXs for 48 hours and then

analyzed the killing activity of tumor cells at the indicated effector-to-target (E: T) ratios by the luminescence-mediated cytotoxic

assay (a), and the expression of GZMB (b), CFSE dilution (c), Ki-67 (d), cell cycle (e), CD25 and CD69 (f) by flow cytometry.

(C) Flow cytometry analysis of the CD19 expression on the surface of plasma exosomes from 4 patients. The green histograms represented the isotype-matched control mAbs for the indicated fluorescent antibodies, whereas the red histograms indicated positive fluorescence. (D) CAR-T cells were exposed to the plasma exosomes (100 ug/ml) from 4 patients for 48 hours and then analyzed to examine expression of CD25 and CD69 by flow cytometry. *P* values are from unpaired two-tailed Student's *t*-tests. **P* < 0.05, ***P* < 0.01, ****P* < 0.001.

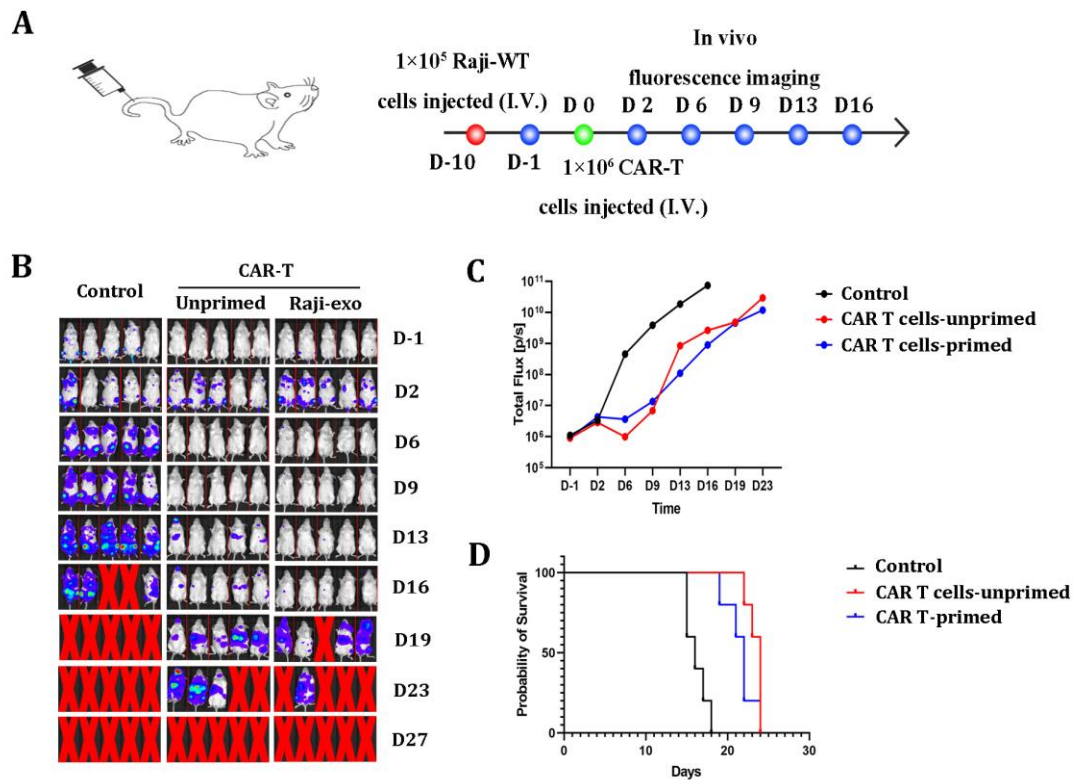


Fig S2. Comparison of antitumor efficacy of CAR T cells that were primed or unprimed with Raji-TEXs in Raji cell mice model

(A) Schematic of experimental design. Briefly, mice were transplanted with Raji-Luc-EGFP cells (1×10^5) on Day-10. On Day 0, mice were treated with PBS, CAR-T cells (1×10^6 cells), or CAR-T cells primed with Raji-exo (100 ug/ml) for 48 hours. (B) The tumor burden was monitored using bioluminescence imaging every 3-4 days. (C) Total bioluminescence was traced in animals

treated with PBS, CAR-T, or CAR-T cells primed with Raji-exo (100 ug/ml) for 48 hours. **(D)** Kaplan–Meier analyses of mice

survival curve. *P* values were calculated using unpaired two-tailed Student's *t*-tests.

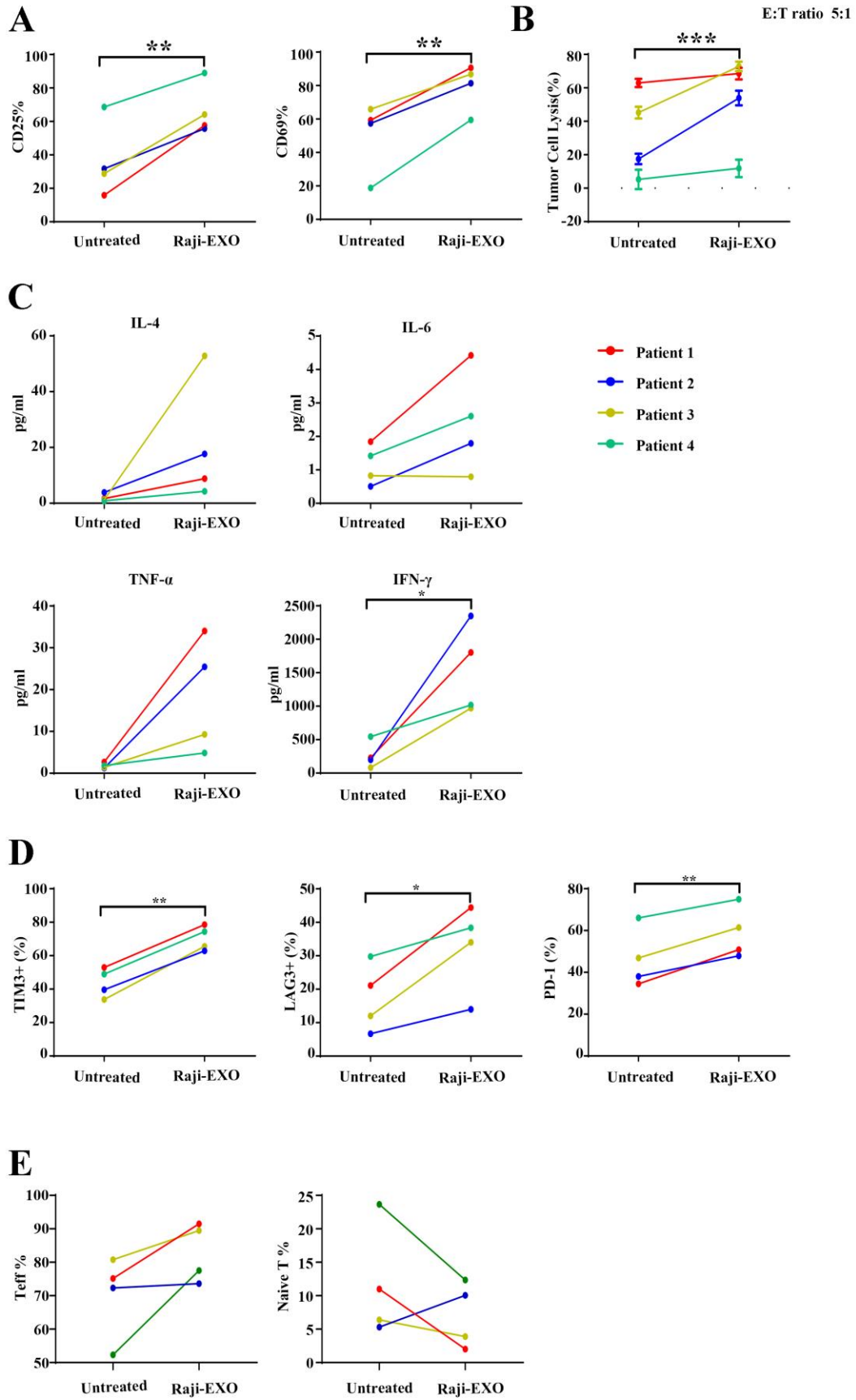


Fig S3. Raji-Exo has similar effects on CAR-T derived from 4 different patients.

CAR-T was exposed to Raji-Exo for 48 hours and analyzed the expression of (A) CD25 and CD69, (B) cytotoxicity, (C) cytokines of IFN- γ , TNF- α , IL-6, and IL-4, (D) TIM3, LAG3 and PD-1, and (E) T cell differentiation in the co-culture system by flow cytometry. P values are from unpaired two-tailed Student's t-tests. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

Supplementary Table 1. The characteristic of 18 patients providing plasma exosome and 3 patients providing CAR-T cells

The patients who provide plasma exosomes						
Patients	Age	Sex	Type of lymphoma	Status of lymphoma	Stage	IPI Score
1	45	Female	DLBCL	Refractory/relapsed	II	1
2	66	Female	DLBCL	Refractory/relapsed	II	3
3	75	Female	DLBCL	Refractory/relapsed	IV	4
4	62	Male	DLBCL	Newly-diagnosed	IV	4
5	51	Female	DLBCL	Refractory/relapsed	III	3
6	54	Female	DLBCL	Refractory/relapsed	I	0
7	55	Female	DLBCL	Refractory/relapsed	II	1
8	61	Male	DLBCL	Refractory/relapsed	II	2
9	54	Male	DLBCL	Newly-diagnosed	IV	4
10	69	Female	DLBCL	Refractory/relapsed	IV	4
11	43	Male	DLBCL	Refractory/relapsed	III	3
12	61	Male	DLBCL	Refractory/relapsed	II	2
13	77	Male	DLBCL	Newly-diagnosed	II	2
14	34	Male	FL	Newly-diagnosed	IV	4
15	55	Male	DLBCL	Newly-diagnosed	II	1
16	69	Male	DLBCL	Newly-diagnosed	IV	5
17	61	Male	FL	Refractory/relapsed	IV	3
18	60	Male	DLBCL	Refractory/relapsed	IV	3
The patents who provide T-cells that are engineered to CAR T cells						
Patients	Age	Sex	Type of lymphoma	Status of lymphoma	Stage	IPI Score
I	62	Male	DLBCL	Refractory/relapsed	IV	3
II	55	Male	DLBCL	Refractory/relapsed	IV	2
III	68	Male	DLBCL	Refractory/relapsed	IV	3