Figure S1. GEO database analysis of the correlation between PCSK9 mRNA expression and immunocytes in HCC. (A) CD4. (B) NK cell makers: CD16, CD56. (C) macrophage cell makers: CD68, CD80 and CD206.

Figure S2. The Effects of PF-06446846 on the Cell Viability of HCC cell lines and Establishment of AFP TCR-T cells. (A) Cell viability of HepG2, Huh7, PLC/PRF/5 and snu449 cells after PF-06446846 for 24 h. (B) Cell viability of TCR-T cells after PF-06446846 for 24 h. (C) Analysis of PCSK9 and AFP in HepG2 by Western blot after PF-06446846 for 24 h. (D) Schematic representation of the lentiviral vectors for AFP TCR-T cells. (E) Flow cytometry analysis of the percentage of AFP-specific TCR T cells. (F) (G) Verification of the AFP TCR-T killing function. Data are presented as the means ± SEM. *P < 0.05, **P < 0.01, ***P < 0.001, ****P < 0.0001, NS, not significant.

Figure S3. Anti-HCC effects induced by the PF-06446846 are dependent on CD8 T cells in vivo. (A-B) The photos of the tumor masses, body weight and tumor weight. (C) Percentage of CD3+CD8+ T cells in mouse blood determined by flow cytometric analysis. *P < 0.05, **P < 0.01, ***P < 0.001, ****P < 0.0001, NS, not significant.

Figure S4. Inhibition of PCSK9 up-regulated LDLR in CD8 T cells. (A) Analysis of PCSK9 in CD8 TCR-T cells by Western blot after PF-06446846 for 12 h. (B) Flow cytometry analysis of membrane LDLR expression in CD8 TCR-T cells after PF-06446846 for 12 h. (C) Analysis of PCSK9 in mouse CD8 T cells by Western blot after PF-06446846 for 12 h. (D) Flow cytometry analysis of membrane LDLR expression in mouse CD8 T cells after PF-06446846 for 12 h. *P < 0.05, **P < 0.01, ***P < 0.001, ****P < 0.0001, NS, not significant.

Figure S5. The PD-1 expression of tumor infiltrating TCR-T after PF-06446846 treatment in vivo. (A) Illustration of the adoptive transfer of 5 million TCR-T cells or MOCK-T cells to HepG2 tumor-bearing NPG mice treated with PF-06446846 (5 mg/kg) or vehicle, mice were sacrificed 7 days after transferring and the cells in the tumor were analyzed. (n = 4 mice per group). (B-C) The percentage of PD-1+CD8 TCR-T cells in tumor-infiltrating total CD8 TCR-T of each mouse 7 days after TCR-T transfer was shown (n = 4). *P < 0.05, **P < 0.01, ***P < 0.001, ****P < 0.0001, NS, not significant.
Figure S1

A

R = −0.19, p = 0.084

B

R = −0.05, p = 0.59

C

R = −0.09, p = 0.4
Figure S3

A

Vehicle

PF

Body weight (g)

Liver weight (g)

Before CD8 antibody

After CD8 antibody

B

Vehicle+CD8 antibody

PF+CD8 antibody

Body weight (g)

Liver weight (g)

Vehicle+CD8 antibody

PF+CD8 antibody

C

SSC-W

CD3+

CD4+

CD8+

CD8

CD4

CD8

CD4
Figure S4

A

B

C

D

Vehicle PF

Vehicle PF

Vehicle PF

Vehicle PF

LDLR MFI

LDLR MFI

LDLR MFI

LDLR MFI

Figure S4
Figure S5

A

NSG male 6-8 W

5x10^6 HepG2 cells

Day 0

Days 20
tumor volume
100mm^3

Days 21

Days 22

Days 24

Days 26

Days 28

Euthanasia and tumor TCR-T analysis

Anti-CD3/CD28

LV infection

TCR-T culture

PF 5 mg/kg, intratumoral injection

B

CD45+ T cell

Human CD45

CD8 TCR-T

TCR

 Vehicle

PF

PD-1+ CD8 TCR-T

16.87%

9.63%

C

PD-1+ CD8 TCR-T(%)

Vehicle

PF

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