LJI Available Technologies

Rel-B-Depleted CAR T Cells

Researchers at the La Jolla Institute for Immunology have shown that adoptively transferring tumor-bearing mice with Rel-B-depleted mouse CD8 CAR T cells improves survival and significantly delays tumor progression.

Adoptive cell therapy for cancer is an increasingly common strategy using infusions of T cells to recognize and eliminate the tumor cells. T cell expressing chimeric antigen receptors (CAR T) targeting human CD19 (huCD19) antigen have exhibited impressive clinical efficacy against B cell leukemias and lymphomas. However, CAR T cells have been less effective against solid tumors in part because they enter a hyporesponsive "exhausted" or "dysfunctional" state that is triggered by chronic antigen stimulation and characterized by upregulation of several inhibitory receptors and loss of effector function. Therefore, there is a great need to provide immunotherapies targeted to hyporesponsive tumors.

As such, researchers at LJI have found that, by adoptively transferring tumor-bearing mice with Rel-B-depleted mouse CD8 CAR T cells, they can greatly improve survival and significantly delay tumor progression. Rel-B depletion also improves CAR T cell expansion as shown by the higher frequency, absolute number, and density of tumor infiltrating lymphocytes as well as higher levels of Ki-67. Furthermore, Rel-B depletion improves production of the cytokine TNFα upon restimulation and increases the levels of Granzyme B under resting conditions.

ADVANTAGES:

- Improves survival and delays tumor progression
- Improves CAR T cell expansion
- Improves production of the cytokines TNFα and Granzyme B

Rel-B Depleted CAR T Cells Show Improved Tumor Rejection
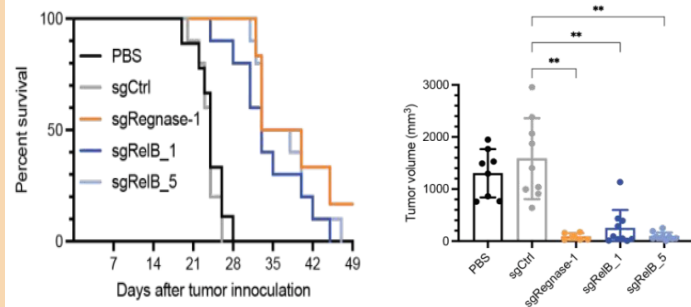
Rel-B-depleted CAR T cells improve survival and delay tumor progression

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