

CAR-T new product development programs are being designed for pre-clinical and future clinical applications.

CAR-T cells can be used for:

1. Compound screening
2. Antibody screening
3. Co-stimulatory and activation domain comparison
4. Personalized medicine and donor variations for CAR-T screening
5. Checkpoint inhibitors
6. Safety switches and regulators of CAR-T functions
7. Pre-clinical in vivo models
8. Treg and T memory cells in CAR-T setting
9. CAR-T signaling, tumor microenvironment
10. Proof of concept studies for clinical trials

The structure of CAR _____

EGFR protein is overexpressed in many solid tumors and is a cancer stem cell marker.

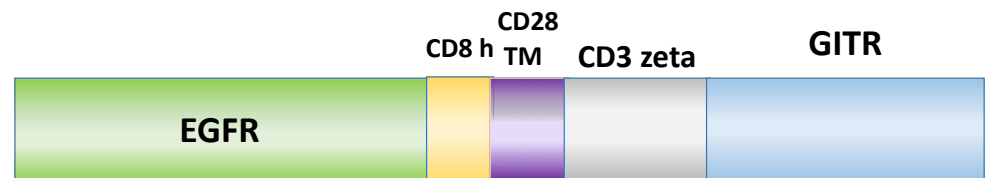


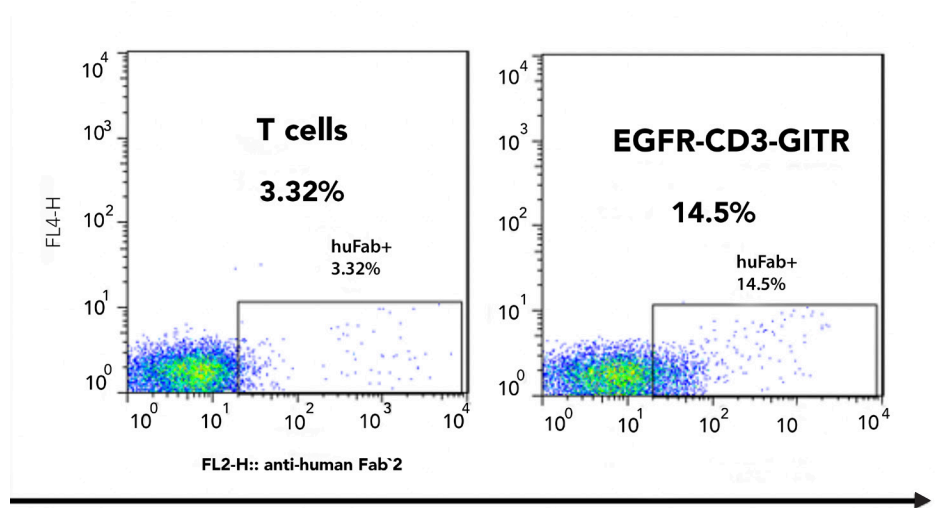
Figure 1. CAR-T cells expressing the above constructs are available targeting EGFR antigen. ScFv, single chain variable fragment. These CAR-T cells are generated with EGFR-CD3 zeta-GITR CAR construct.

To date we generated 2nd generation CAR and CAR controls as shown in Figure 1, CAR-T cells and CAR-Natural Killer (NK) effector cells against cancer target cells that show excellent functionality, including dose-dependent and target cell-specific cytotoxic activity.

These CAR-T cells can be tested with target cells in cytotoxic assays and used for testing modulators of immune checkpoint inhibitors (PD-1, CTLA-4 pathways) or activators of immune response, small molecules affecting T cell or T reg activity.



Data



Human FAB

Figure 2. Human FAB detected EGFR scFv-positive CAR-T cells

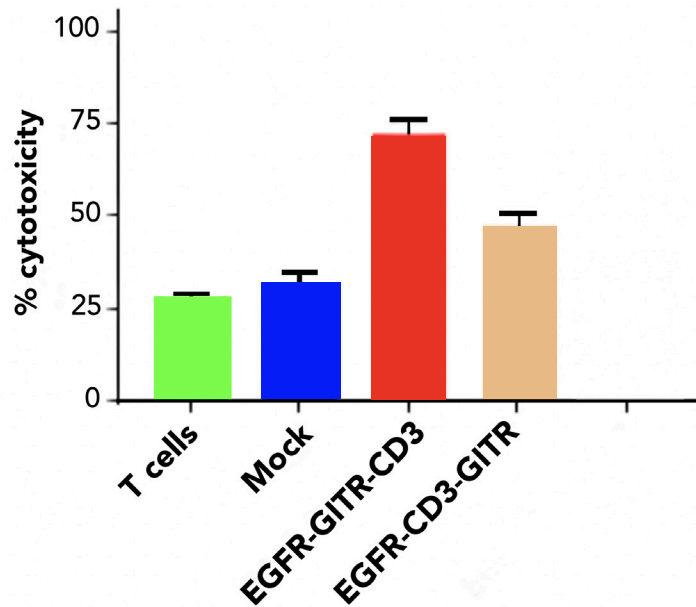


Figure 3. RTCA cytotoxicity activity of effector EGFR-CD3-GITR-CAR-T cells against EGFR- positive pancreatic BxPC3 cancer cells. EGFR-GITR-CD3 CAR-T cells available express higher cytotoxicity activity than EGFR-CD3-GITRCAR-T cells. Effector: Target cells ratio=10:1.

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