



Promab Biotechnologies' 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 from Promab's available CAR-T cells targeting EGFR antigen

Epithelial (epidermal growth factor receptor (EGFR; ErbB-1;HER1) is a cell-surface receptor for the epidermal growth factor family (EGF Family) receptors (Her-2, Her-3, Her-4). EGFR-1 is overexpressed in a number of tumors breast, lung, glioblastoma and other types and can be used as a marker for CAR-T immunotherapy.

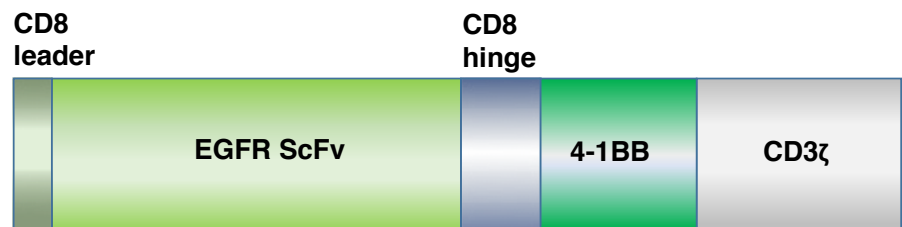


Figure 1. CAR-T cells expressing the above constructs are available from Promab targeting EGFR antigen. ScFv, single chain variable fragment. These CAR-T cells are generated with EGFR-4-1BB-CD3 ζ CAR construct.



To date Promab generated 2nd or 3rd generation CAR and CAR controls (2nd generation of CAR is 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 cells can be tested with CAR-T 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 Treg activity.

Data

Bx PC3 cells-pancreatic cancer cells

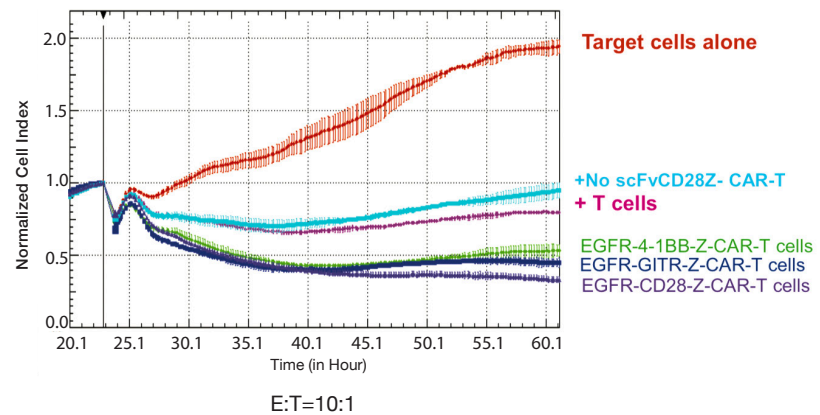


Figure 2. RTCA assay with BxPC3 pancreatic cancer target cells and effector EGFR 4-1BB CD3 ζ (geen color) CAR-T cells. Effector to target cells ration is 10:1.