



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

CD19-1 Beam1 protein overexpressed in many hematological cancers. CD19-1 Beam1 CAR-T vells can be used to target CD19-1 Beam1 positive cancers.

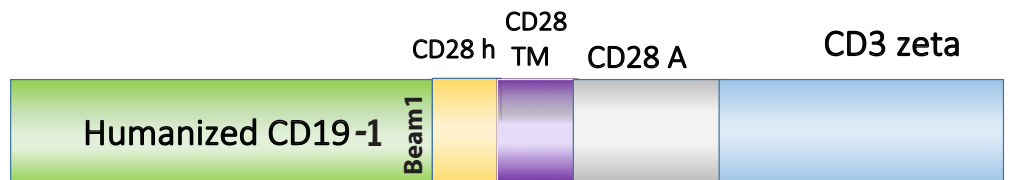


Figure 1. CAR-T cells expressing the above constructs are available from Promab targeting CD19-1-Beam antigen. ScFv, single chain variable fragment. These CAR-T cells are generated with CD19-Beam1- CD28-CD3 zeta CAR construct.

To date Promab 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

hCD 19- Beam1-CAR-T cells

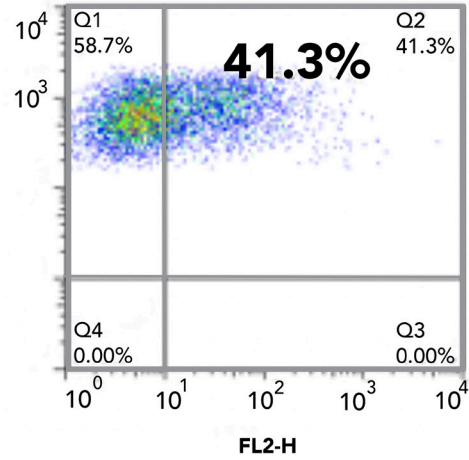


Figure 2. FACS with human FAB Ab detects humanized CD19-Beam1 ScFv

Hela-CD19-Beam1 cells

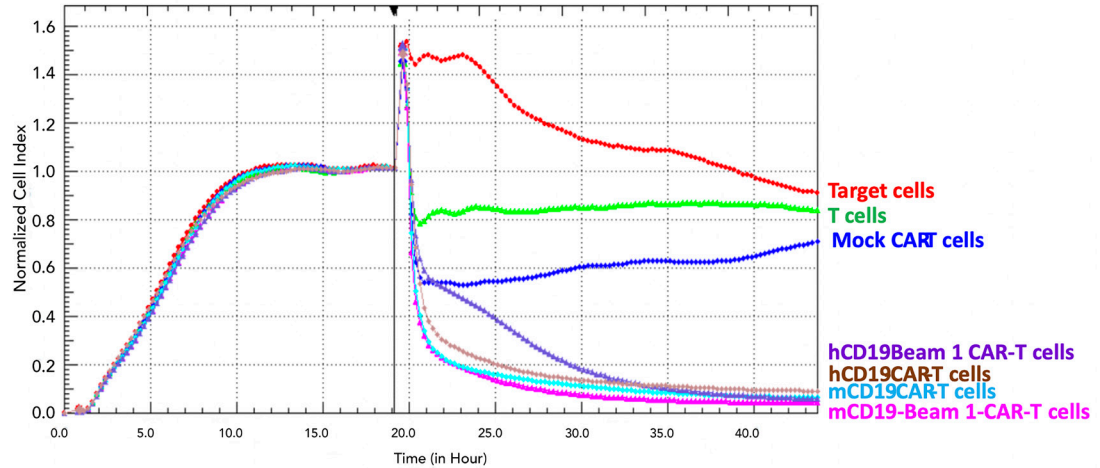


Figure 3. Humanized CD19-Bema1-CAR-T cells express same cytotoxicity as humanized CD19-1-Beam1 and mouse CD19-1-Beam1 CAR-T cells against Hela-CD19-1-Beam1 cells