



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:

CD123 (IL-3RA) protein is overexpressed in many hematological tumors. CD123-CAR-T cells can be used to target tumors.

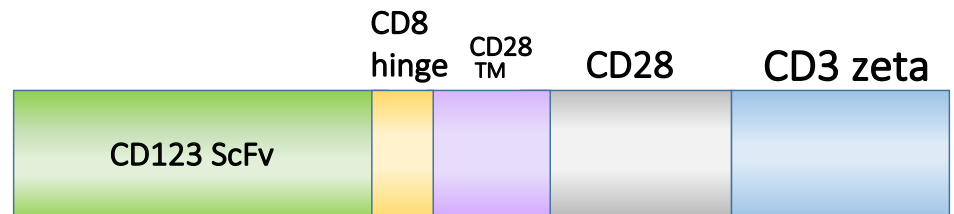
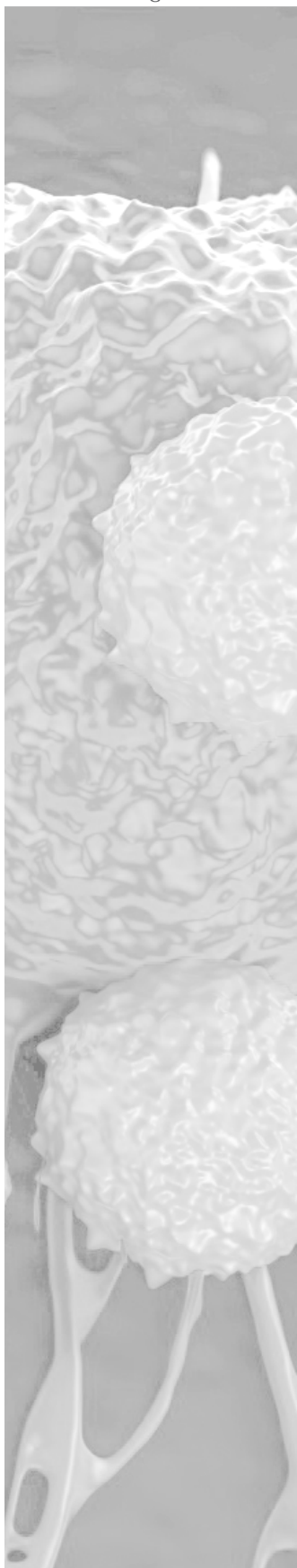


Figure 1. CAR-T cells expressing the above constructs are available from Promab targeting CD123-1 antigen. ScFv, single chain variable fragment. These CAR-T cells are generated with CD123-CD28-CD3 zeta CAR construct.

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

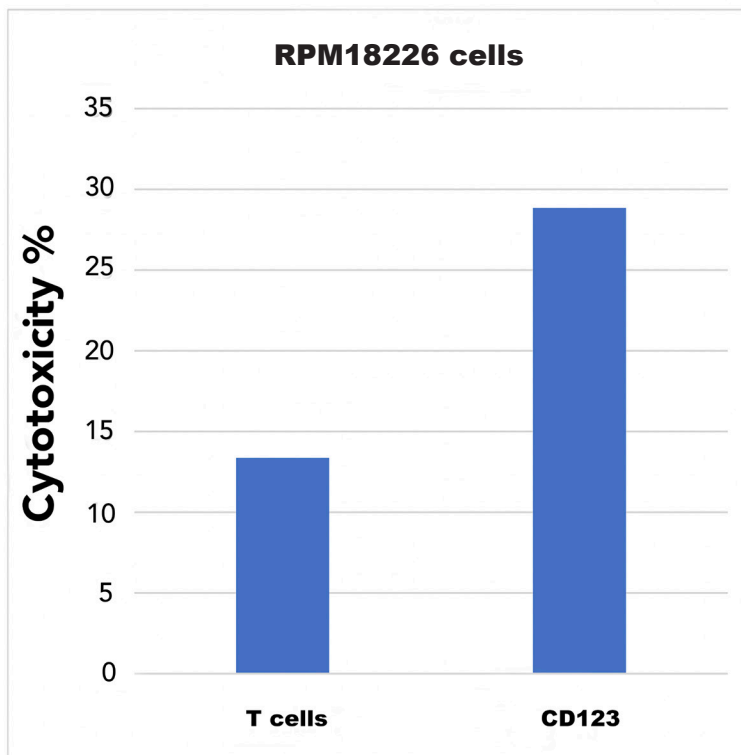


Figure 2. LDH cytotoxicity assay with CD123-CAR-T cells shows killing of target cells.

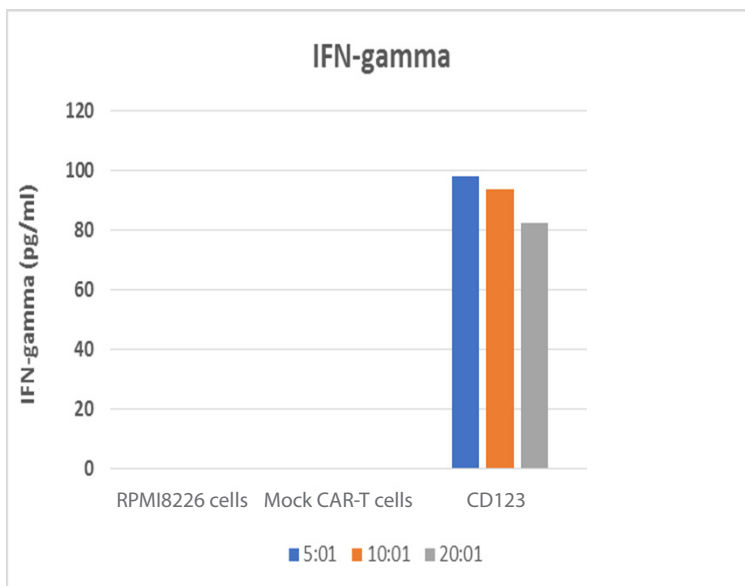


Figure legend 3. IFN-gamma assay with CD123-CAR-T cells and RPMI8226 target cells.