

**Products and Services**

- Mouse Monoclonal Antibody
- Rat Monoclonal Antibody
- Human Antibody
- Hybridoma Sequencing
- Polyclonal Antibody

**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 and CD22 proteins are overexpressed in many hematological cancers. CD19-CD22-CAR-T cells with Rituximab RQR8 switch can be used to target hematological cancers with increased safety.

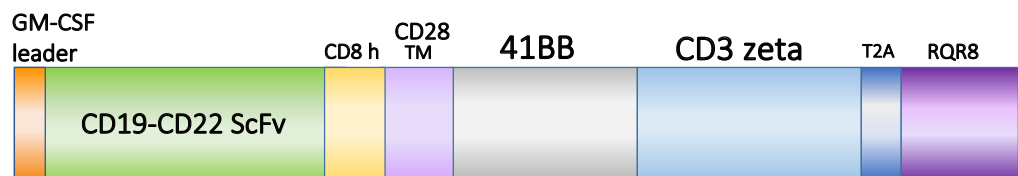


Figure 1. CAR-T cells expressing the above constructs are available from ProMab targeting CD19 and CD22 antigens. ScFv means single chain variable fragment. These CAR-T cells are generated with CD19-CD22-41BB-CD3 zeta-T2A-RQR8 CAR construct. RQR8 suicide switch contains epitopes for Rituximab and CD34 antibodies.

To date, ProMab has generated 2nd generation CAR and CAR controls (as shown in Figure 1). ProMab has also generated CAR-T cells and CAR-NK (Natural Killer) 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), activators of immune response, or small molecules affecting T-cell or T-reg activity.



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**Data**

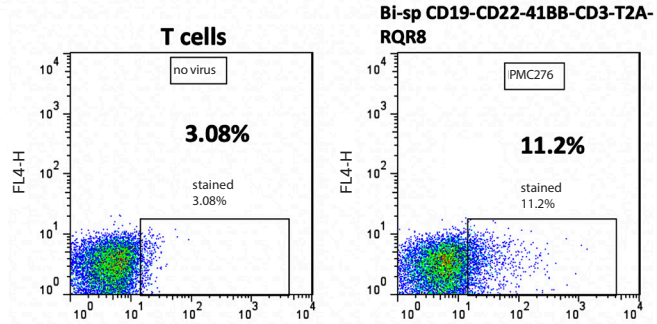


Figure 2. Rituximab detects Rituximab (R) epitope. CD34 antibody detected CD34 epitope (Q) (not shown).

**Hela-CD19 cells**

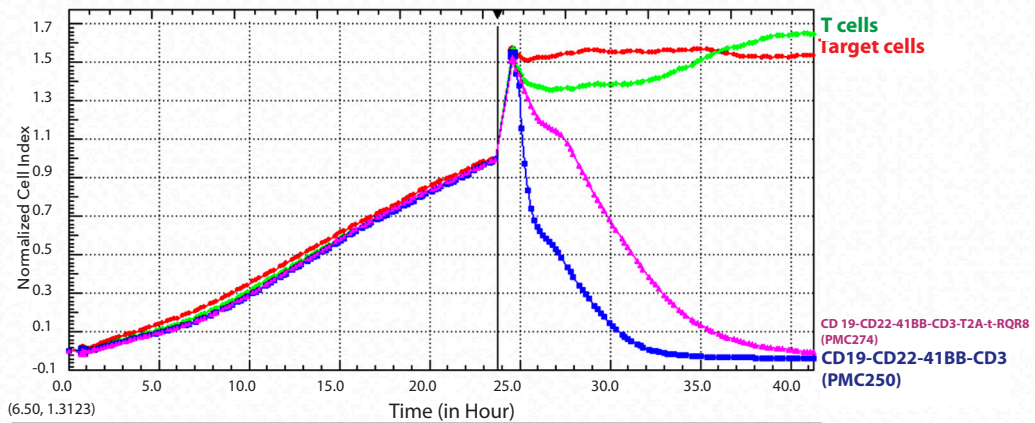


Figure 3. CD19-CD22-41BB-CD3-T2A-RQR8 CAR-T cells kill CHO-Hela-CD19 cells. CD19-CD22-CAR-T cells with no suicide switch (PMC250 / PM-CAR1035, available from ProMab) are also shown.

**CHO-CD22 cells**

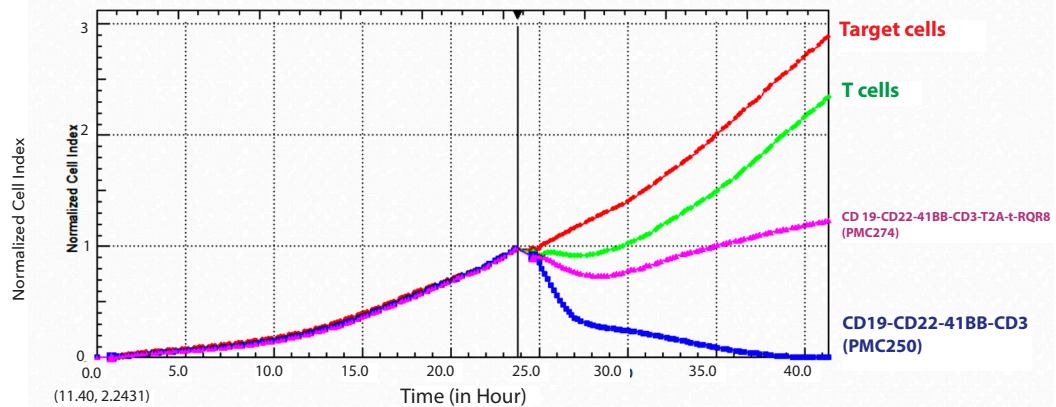


Figure 4. CD19-CD22-41BB-CD3-T2A-RQR8 CAR-T cells kill CHO-CD22 cells. CD19-CD22-CAR-T cells with no suicide switch (PMC250 / PM-CAR1035, available from ProMab) are also shown.