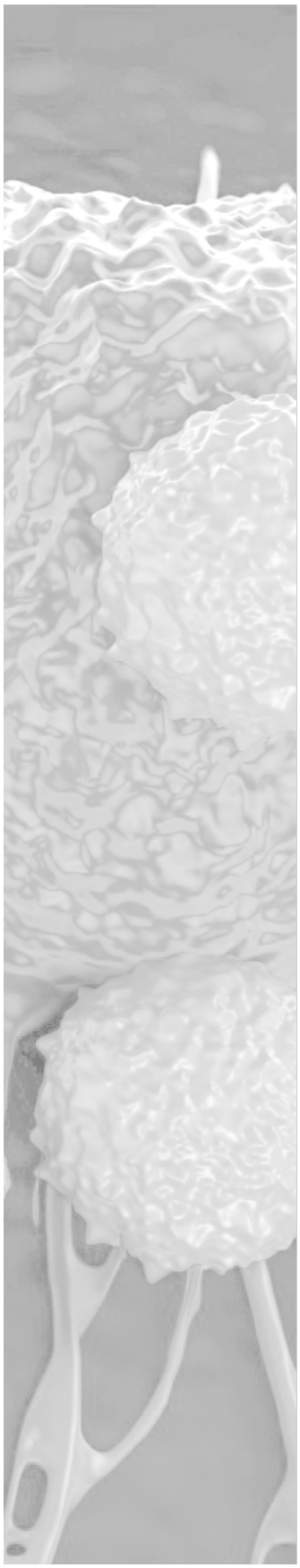
ProMab Biotechnologies, Inc.

PM-CAR1017 GPC3 SCFV-CD28-CD3ζ

Ready-to use-CAR-T cells



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 GPC-3 antigen

GPC-3 is a glypican-3 protein, membrane-associated heparan sulfate proteoglycan. It is highly expressed in embryonal tissues such as the developing intestine and the mesoderm- derived tissues. Its expression is downregulated in most adult tissue, but overexpressed in hepatocellular carcinoma (HCC) and lung cancer. GPC-3 can be used as a tumor antigen for targeting by CAR-T immunotherapy.

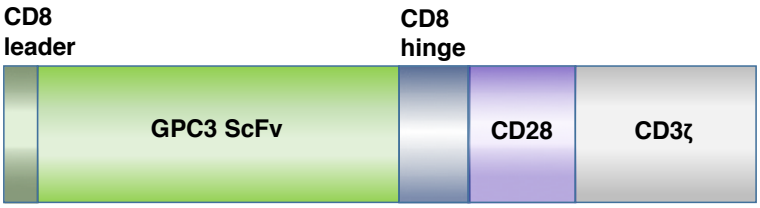


Figure 1. CAR-T cells expressing the above constructs are available from Promab targeting GPC-3 antigen. ScFv, single chain variable fragment. These CAR-T cells are generated with GPC3 ScFv-CD28-CD3ζ CAR construct.

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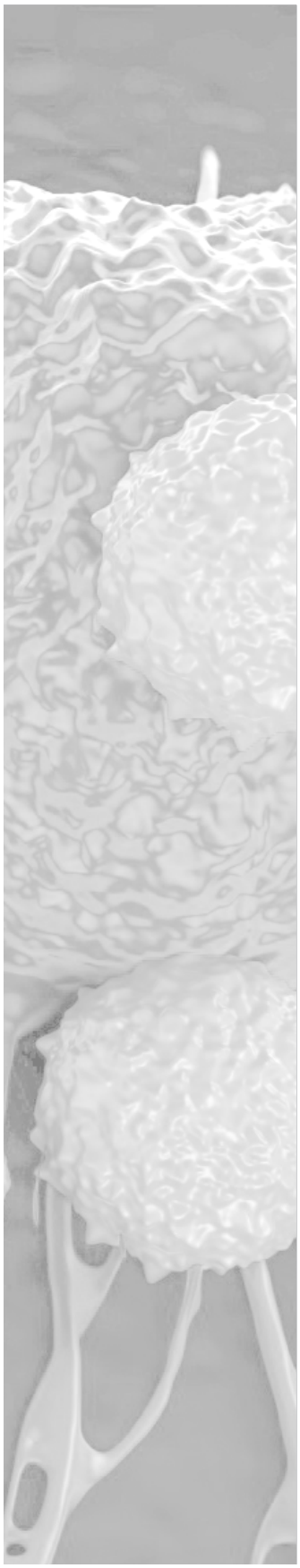

To date Promab generated 2nd or 3rd generation CAR and CAR controls (2nd generation of CAR is shown in Figure 1), CAR-T cells and CAR-Natural Killer (NK) effector cells against cancer target cells that show excellent functionality, including dose-dependent and target cell-specific cytotoxic activity (Figure 2).

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

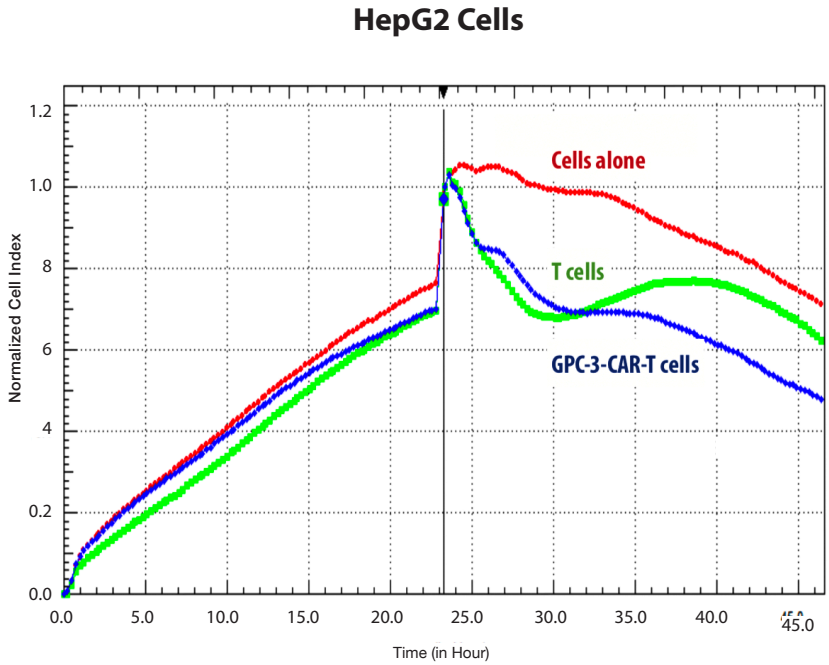

Figure 2. Real-time cytotoxic activity of GPC-3 ScFv-CAR-T effector cells against GPC-3-positive target cells. The ratio of effector cells to target cells is 10:1.

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