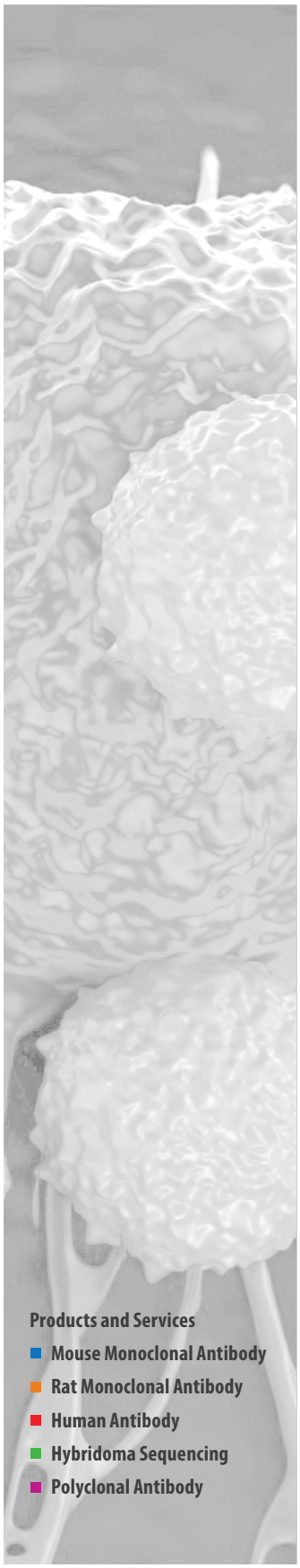
ProMab Biotechnologies, Inc.

NON-TRANSDUCED T_{SCM}

Engineered Target Cell Lines

PM-CAR2012



Products and Services

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

T-cells are functionally divided into helper T-cells, which are $CD4^+CD8^-$ ("T4"), and cytotoxic T-cells, which are $CD8^+CD4^-$ ("T8"). However, recent studies have indicated that, at least in vitro, cultured helper T-cells can exhibit similar levels of cytolytic activity as cultured cytotoxic T cells.

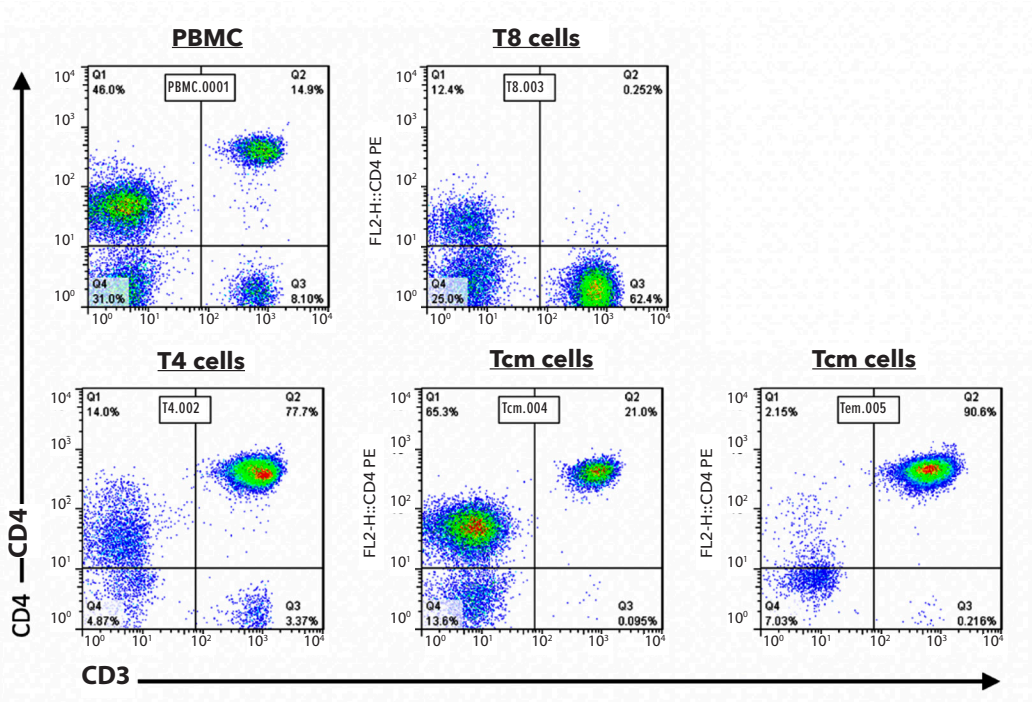
T cells can also be divided based on differentiation status into 4 subsets:

1. **Naïve ("T_n", containing T_{scm})**, which are $CD27^+$ $CCR7^+$ $CD45RO^-$
2. **Central-memory ("T_{cm}"),** which are $CD27^+$ $CCR7^+$ $CD45RO^+$
3. **Effector-memory ("T_{em}"),** which are $CD27^-$ $CCR7^-$ $CD45RO^+$
4. **Effector ("T_{eff}"),** which are $CD27^-$ $CCR7^-$ $CD45RO^-$.

Human PBMC are separated into 4 subsets using antibodies and magnetic beads. The subsets were: $CD4^+CD8^-$ T cells (T4), $CD8^+CD4^-$ T cells (T8), $CD4^+$ central-memory T cells (T_{cm}) and $CD4^+$ effector-memory T cells (T_{em}). Immediately after isolation, the subsets and the PBMC were analyzed by flow cytometry for the composition of the subsets. Each of the above subsets can be used for CAR transduction for functional analysis of proliferation, CAR expression, memory and cytotoxic function.

Data

Example of separation of four fractions by FACS (Figure 1)



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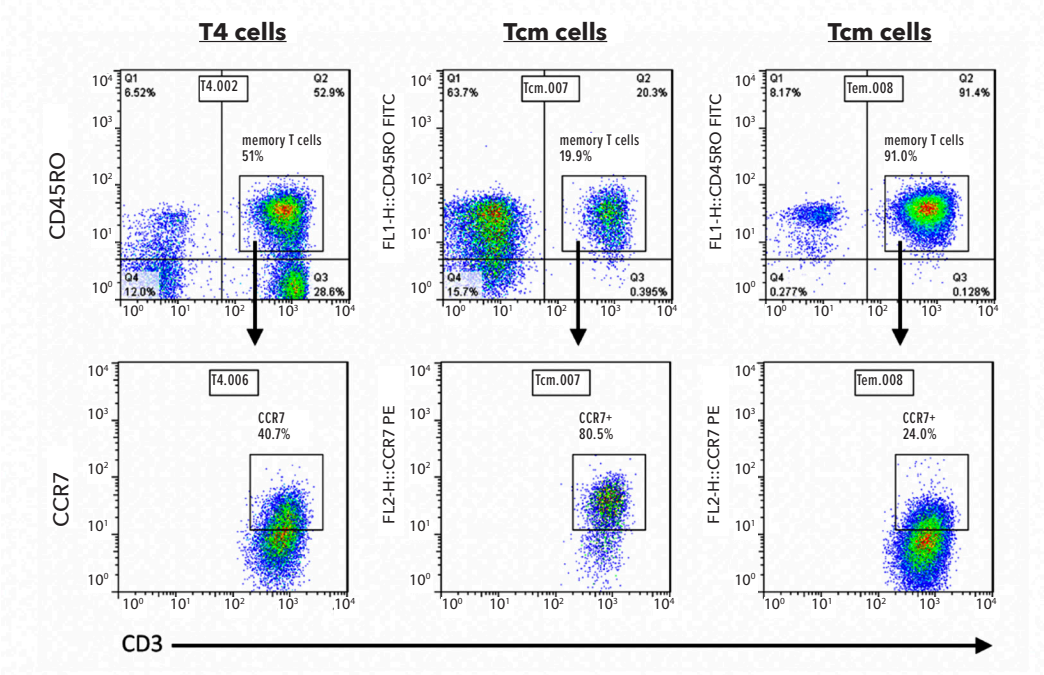

(Figure 1) Flow cytometric analysis of the PBMC and T cell subsets. First, the cells are stained with antibodies against CD4 and CD3 (top panel). T cells are $CD3^{+}$, non-T cells are $CD3^{-}$, and monocytes are $CD3^{-}$CD4low. Then, the T4, T_{cm} and T_{em} subsets were stained with antibodies against CD3, CD45RO and CCR7 (lower panel).

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