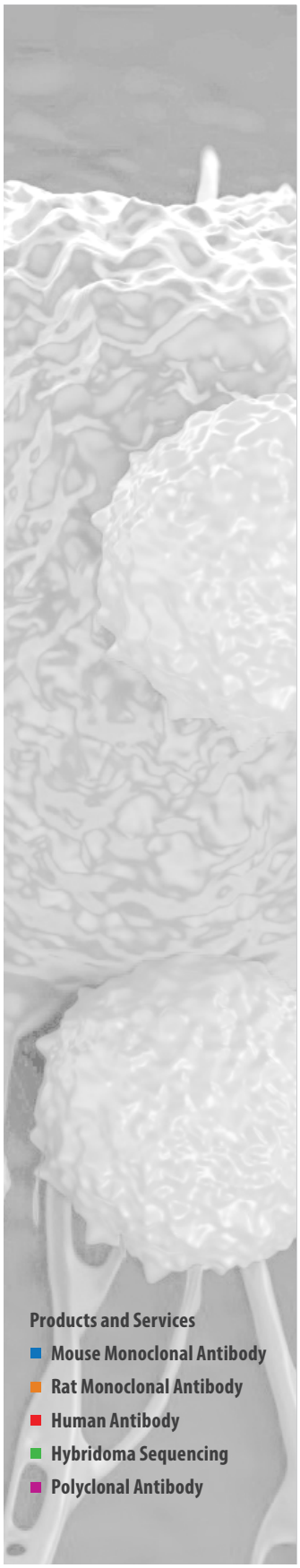
ProMab Biotechnologies, Inc.

NON-TRANSDUCED $CD8^+$ $CD4^-$ T CELLS

PM-CAR2008

Engineered Target Cell Lines



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.

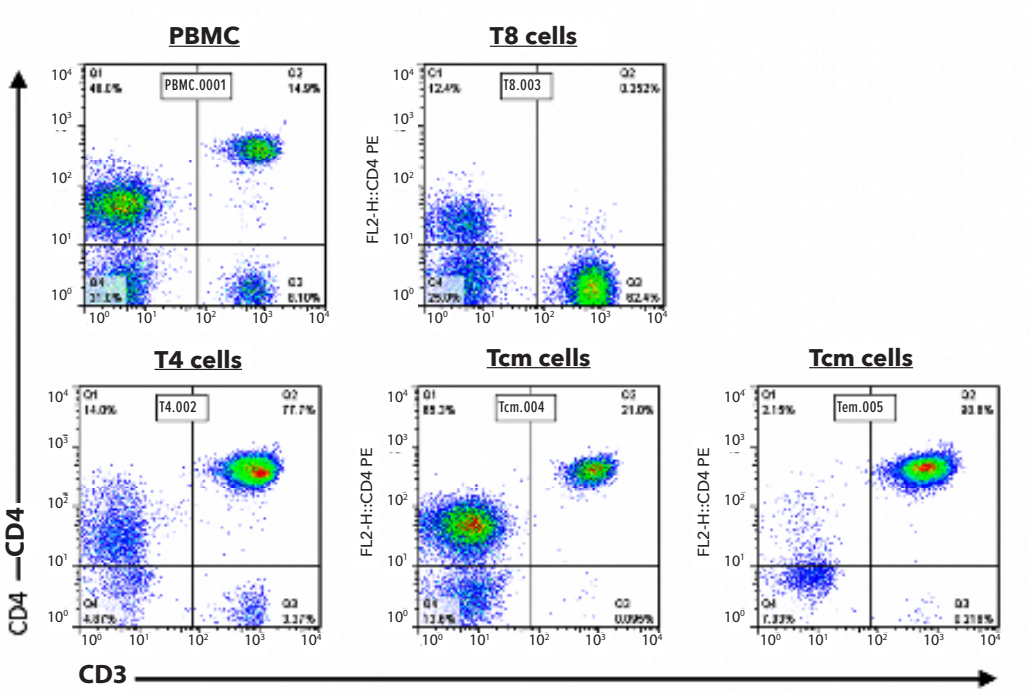
T cells can also be divided based on differentiation status into 4 subsets:

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)



ProMab Biotechnologies, Inc. | 2600 Hilltop Drive, Building B, Suite C320, Richmond, CA 94806 USA
Toll free 1-866-339-0871 | 1-510-860-4615 (Sales) | 1-510-860-4614 (Technical Support) | Fax 1-510-740-3625 | info@ProMab.com | www.ProMab.com

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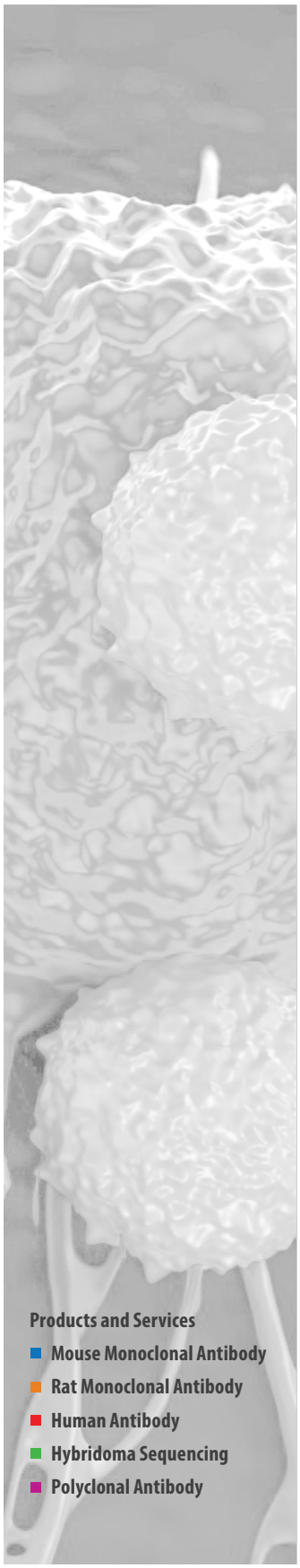

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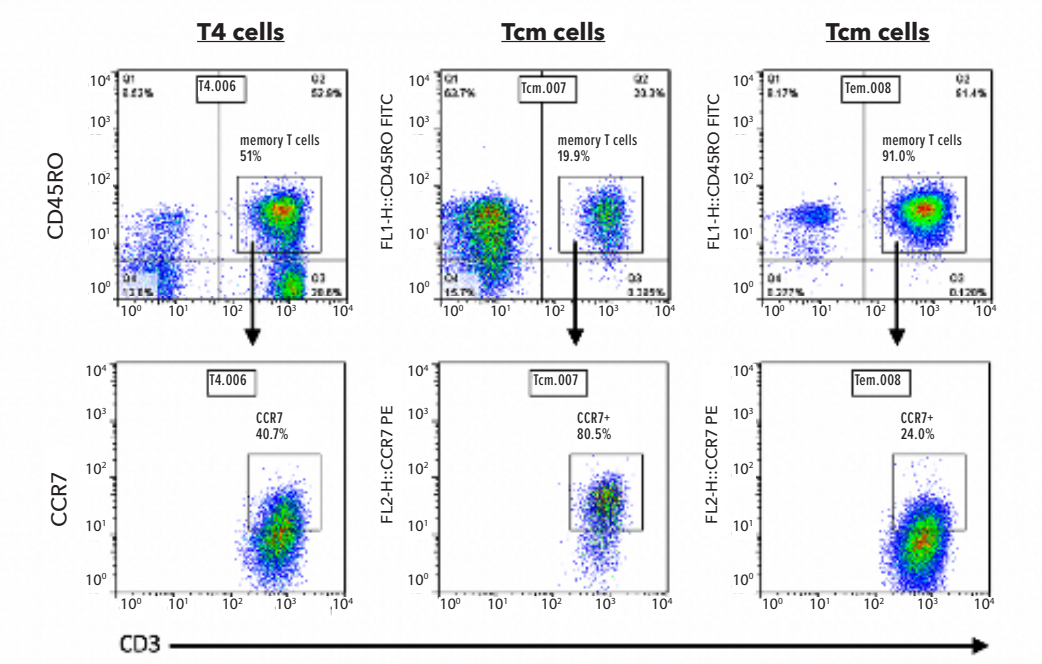

(Figure 1) Flow cytometric analysis of the PBMC and T cell subsets. First, the cells are stained with antibodies against CD4 and CD3 (top panel). T cells are CD3$^+$, non-T cells are CD3$^-$, and monocytes are CD3$^-$CD4low. Then, the T4, T_{cm} and T_{em} subsets were stained with antibodies against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

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