

TCR γ/δ^+ separation from TCR α/β^+ with a column-free immuno-magnetic workflow

INTRODUCTION

In recent years T cell receptor (TCR) cell therapy has gained popularity due to a range of possible treatments for cancer and some infectious diseases it could provide. Since $\gamma\delta$ T-cells constitute promising effector cell compartments for cancer immunotherapy, novel $\gamma\delta$ T-cell-based immunotherapies are being developed. Although advancements in TCR engineering, manufacturing, and clinical applications have led to significant progress in the field, challenges in optimizing the TCR cell therapy development, efficacy, and safety remain. The **MARS® platform** provides an easy method to optimize and scale up $\gamma\delta$ T-cells providing specialists with a new tool to help maximize the clinical potential of TCR therapies.

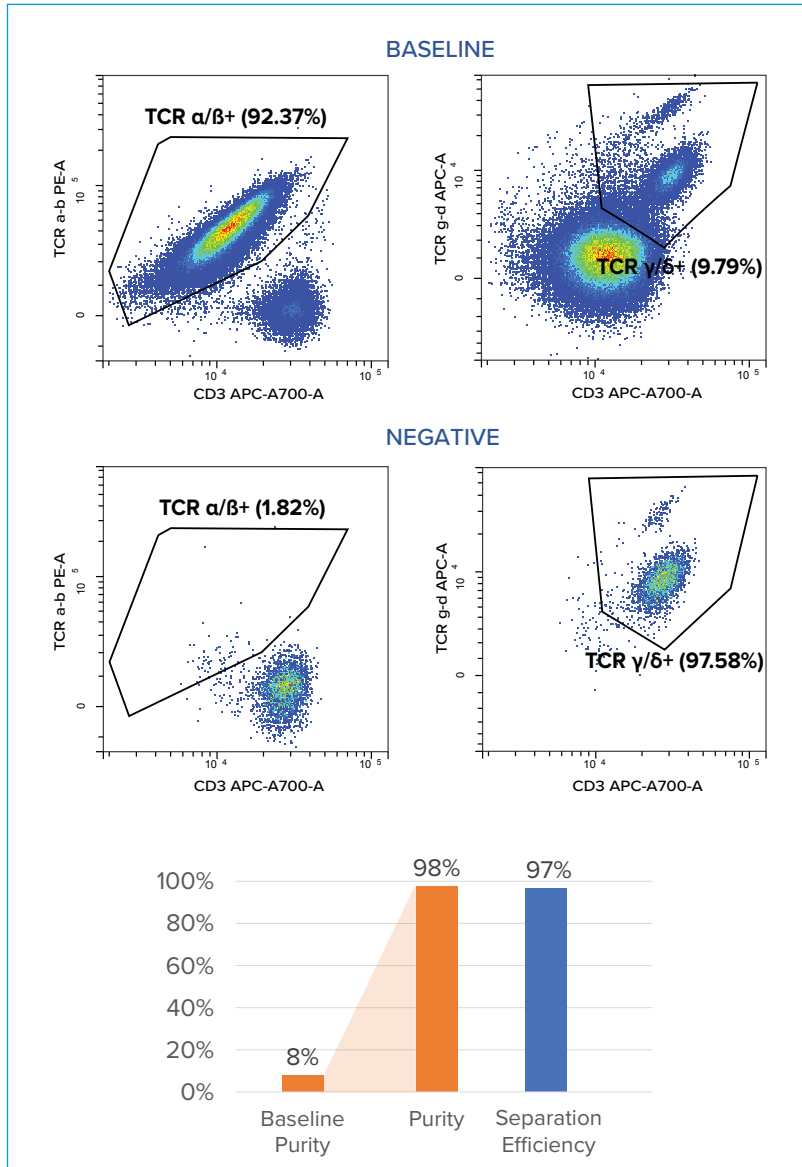


Figure 1. MARS® platform provides an easy and cost-effective protocol for $\gamma\delta$ T-cells isolation. Single pass TCR α/β^+ depletion was >99.8%, while TCR γ/δ^+ separation efficiency exceeded 97%.

END-TO-END SOLUTION FOR EASY WORKFLOW UPSCALING

- ① Pre-programmed and customizable workflows for easy optimization
- ② Parallel processing of up to 3 samples
- ③ Matrix-free magnetic column sample flow rate of 1 mL/min
- ④ Capacity to process billions of cells in a single closed system operation
- ⑤ Bags compatible holding arm
- ⑥ Control panel operated from a distance for use in bio-safety hood

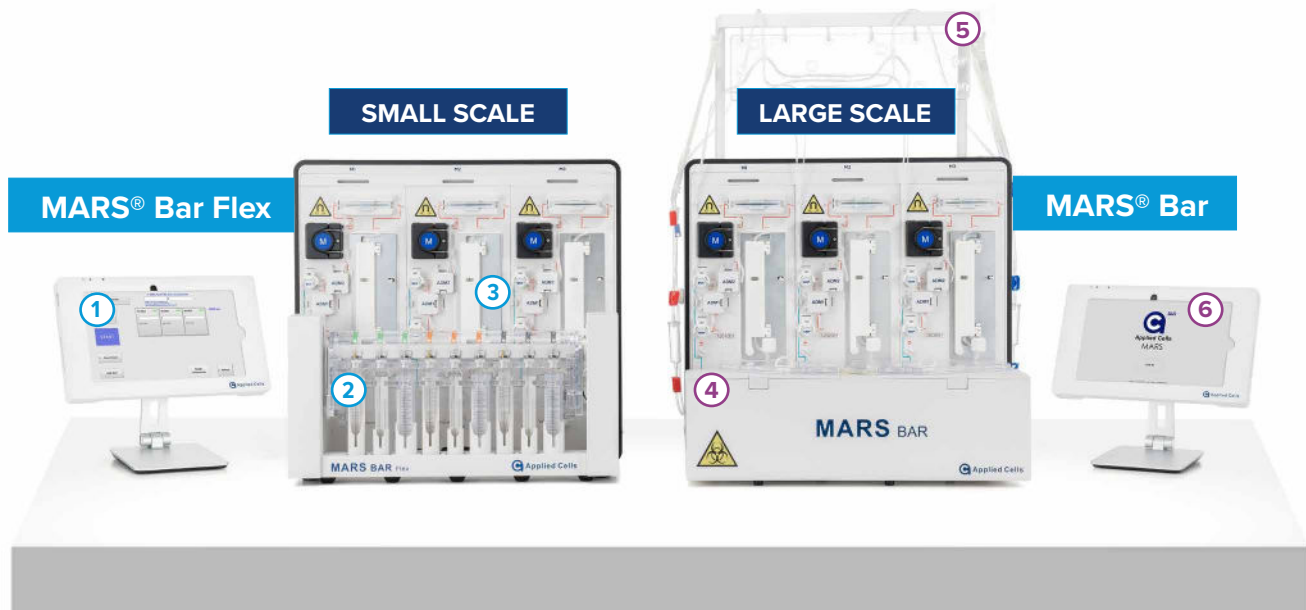


Figure 2. MARS® platform enables easy and cost-effective assay optimisation and upscaling.

Using MARS® Bar platform ensures:

- ☑ Over **98% purity** and very high **recovery** of $\gamma\delta$ T-cells
- ☑ Easily **re-run the sample** to improve purity
- ☑ **Fast and Simple** workflow (up to 6mL / min)
- ☑ **No magnetic column** costs
- ☑ **Intuitive**, touchscreen interface
- ☑ Low consumables **cost**, low reagent **consumption**

MARS® Bar family offers both, a small-scale system (Flex) for easy assay optimization of up to 3 samples in parallel, and a fully enclosed bag-in-bag-out (BIBO) configuration for high-performance, sterile cell processing and subsequent culturing.

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