

# CAR T-Cell (CD19) Enumeration Biocytometry Kit



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HUMAN

## Universal Enumeration of Functional CAR T-Cells

The CAR T-Cell (CD19) Enumeration Biocytometry Kit utilizes bioparticles displaying the extracellular domain of CD19, enabling precise quantification of cells expressing functional anti-CD19 CAR constructs. Identification is not specific to a single anti-CD19 construct, and can be used regardless of CAR T-cell product type. Biocytometry is highly selective, with zero limit of blank and no false positives. The workflow is designed to be user-friendly without the need for expensive instruments or specialized personnel.

### Sample types

- PBMCs
- peripheral blood
- frozen samples

### Instrument requirements

- fixed-rotor centrifuge
- multimode plate reader (>1000 amol)
- 30°C incubator
- thermoshaker

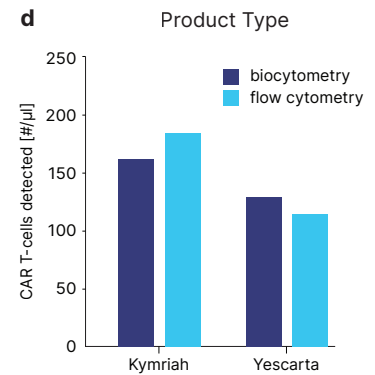
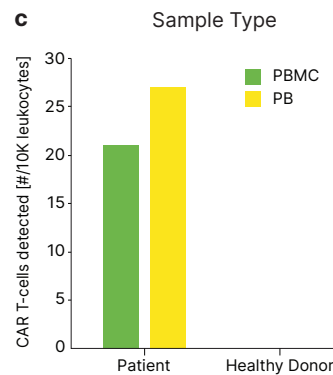
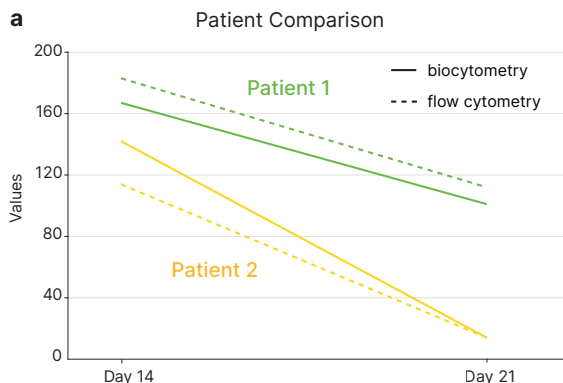
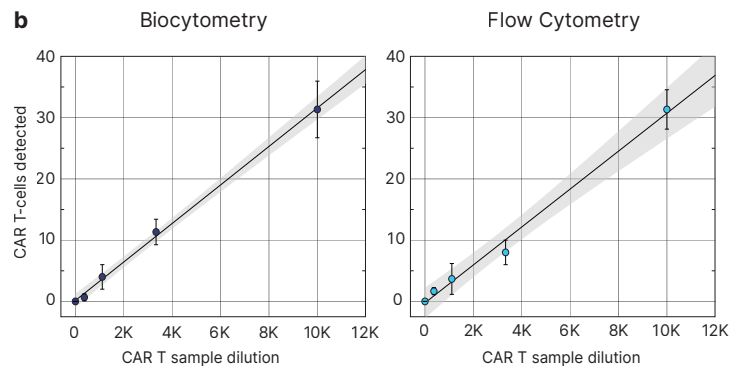
### Workflow

1. add bioparticles & mix: 15 min
2. incubate: 5 hr, walkaway
3. add substrate & measure: 1 min

## Performance Assessment

Peripheral blood monocytes from two patients treated with Kymriah and Yescarta were collected on days 14 and 21 post-administration and cryopreserved for pharmacokinetic study assessment. The samples were analyzed by biocytometry (CD19) and flow cytometry (anti-FMC63 antibody).

(a) Differential CAR T-cell expansion dynamics were observed and correlated with values obtained through flow cytometry, revealing variations in cellular response between the patients. (b) In a direct comparison, biocytometry and flow cytometry exhibited a strong correlation ( $r = 0.96$ ,  $p < 0.01$ ). (c) Compatibility was demonstrated across various sample matrices (PBMCs, peripheral blood, frozen samples) and (d) product types (e.g., Kymriah, Yescarta).



## Technical Specifications<sup>1</sup>

### Sample

The CAR T-Cell (CD19) Enumeration kit is designed to process a variety of sample types and sizes. Necrotic and non-functional cells in a sample are not analyzed.

sample types	PBMCs/peripheral blood/frozen samples
sample volume	100 µl
cells (total)	100-100,000
reactions per kit	10

### Target cells

The CAR T-Cell (CD19) Enumeration kit quantifies target cells displaying functional anti-CD19 CAR constructs, regardless of product type.

targeted marker	anti-CD19 CAR
product types verified	Yescarta/Kymriah
non-functional CAR T-cells	not quantified

<sup>1</sup> the values provided are approximate and for reference only. Specifications for samples and target cells may differ based on the application. For comprehensive guidelines on assays, workflows, and updates on new product releases, please visit our website at [www.samplinghuman.com](http://www.samplinghuman.com). For inquiries regarding custom solutions, high-throughput workflows, or licensing options, feel free to reach out to us at [info@samplinghuman.com](mailto:info@samplinghuman.com).