

## **CAR-T Workflow Solution.**

**Chimeric Antigen Receptor (CAR)** cell therapies have emerged as an effective method in immuno-oncology research for successfully treating some forms of leukemia and lymphoma. However, performing accurate cell analysis, including precise size determination and viability, throughout the process remains inefficient and cumbersome, currently requiring the use of multiple instruments.

The Moxi GO II Cell Analyzer perfectly addresses all of the cell analysis needs required in CAR research, whether your performing basic research or in full production. The Moxi GO II is the only instrument in the world that combines Coulter Principle (electronic) cell detection with simultaneous two-color fluorescence detection. This unique combination allows for exact volumetric cell sizing (<3% CV), which is required to determine the end of the Expansion phase, while also allowing for the analysis of fluorescence-based viability, GFP expression, CD phenotyping, etc.

The **Moxi GO II** uniquely combines two instruments in one: Coulter Principle based cell size and count analyzers with traditional flow cytometers...vastly simplifying CAR workflows.

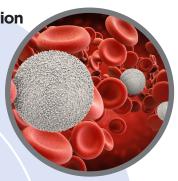


Research Use Only. Not for Diagnostic Procedures.



Extraction of white blood cells, including T cells (leukopheresis)

1. Extraction



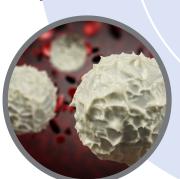
2. T-Cell Isolation



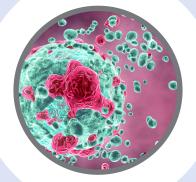
#### 5. QC and Characterization

Target: Effector Cell Assays



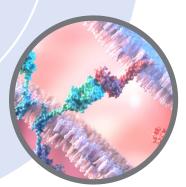


Expansion of CAR T cells



**Destruction of Cancer Cells** 

#### 3. Activation/Transduction



A gene encoding chimeric antigen receptor (CAR) is transferred into the patients T cells

### Moxi GO II covers the full CAR-T research workflow.

The CAR-T workflow involves Extraction of the patients T cells, Isolation,
Activation/Transduction, Expansion,
and QC and Characterization. The Moxi
GO II is the ideal platform for each step in the CAR-T research workflow.

#### 1. Extraction

• Isolated PBMC viability check

#### 2. T-Cell Isolation

Purity check

#### 3. Activation/Transduction

- QC of Count
- Dynabead count, pre- and postactivation
- Activation monitoring
- Transduction efficiency monitoring and optimization

#### 4. Expansion

 Total count, viability, MCV, Phenotypes, T:E Ratios

#### 5. QC and Characterization

- Effector Cell Count, MCV and viability
- Target: Effector Cell Assays
- Cell Health

## Cell Therapy (CAR-T) Market: Cell Volume is Key.



Coulter Principle Counter Sizing with 2 Color Flow

# Moxi GO<sup>M</sup>II

Two instruments in one.

**Save Time:** One Sample Prep, One Test, One Location **Save on Cost:** One System, More Efficient, No Maintenance



# Coulter Principle Size/Count + Two Color Flow







Effective Diameter - Size Range (µm) 3-27 µm

Cell Volume (fL) 14 - 10,3

Measurement Time 10-15 sec

Concentration 5,000 - 3

Sample Volume (µL) 60 µL Ty

3-27 μm 14 - 10,306 fL 10-15 seconds 5,000 - 1,750,000 cells/ml 60 μL Type S+

System Specifications	
Laser	488nm
Fluorescence Detection	2 PMTs
Coulter Principle for Cell Count and Size	<b>√</b>
FITC Channel (525/45 nm)	√
PE Channel (561 nm LP)	<b>/</b>
PI Channel (646 nm LP)	<b>√</b>
7" Color Touch Display	<b>√</b>
USB on-the-go (PC or MAC)	<b>√</b>
FCS 3.1 Data output	<b>√</b>
On Board Applications:	
Cell Count and Size	<b>√</b>
Cell Count (Size and Viability)	<b>√</b>
GO Flow (easy, custom-flow assays)	<b>√</b>
Cell QC (Size and Viability)	<b>√</b>
PBMC Check	<b>√</b>
CAR T Expansion (Count and Purity)	$\checkmark$
Open Flow (user configurable flow assays)	<b>/</b>
GFP Check	<b>√</b>
Cell Health (Calcein-AM, Viability)	1
Apoptosis (Annexin V-FITC, Viability)	1



**Request a FREE Demo** 

Research Use Only. Not for Diagnostic Procedures.



For orders or inquiries, please contact your local GeminiBio sales representative.

#### **GeminiBio Customer Service**

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