



**CYTEK**<sup>®</sup>  
TRANSCEND THE CONVENTIONAL



# Cytek<sup>®</sup> Muse<sup>®</sup> Micro Cell Analyzer

Experience Simple, Affordable Flow Cytometry

# Flow Cytometry For Every Lab

The introduction of the Cytek® Guava® Muse® microcapillary system over 10 years ago transformed flow cytometry for thousands of laboratories; making flow cytometry simple, affordable and accurate. With thousands of publications highlighting its use, the new Cytek Muse Micro system builds on this proven success, extending the capabilities with a new 488 nm blue laser. The Cytek Muse Micro cell analyzer enables side scatter (SSC) as well as forward scatter (FSC) detection and up to three fluorescent parameters for analysis, while leveraging simplified workflows, accuracy, and accessibility laboratories rely on. The Cytek Muse Micro cell analyzer is designed to meet the diverse needs of testing and research environments across a wide range of industries, including drug discovery, water quality testing, biopharma, bioprocessing, and wine and beer production.



Sophisticated cell analysis is no longer exclusive, complex, or expensive. The Cytek Muse Micro cell analyzer offers up to 5-parameter analysis in a compact, user-friendly benchtop device, making flow cytometry accessible to anyone, anywhere. Its intuitive touchscreen interface, easy-to-use software, and optimized “Mix-and-Read” assays combine to streamline and simplify flow cytometry analyses.



## Advanced Microcapillary Technology:

A high-precision displacement pump delivers accurate and precise cell counts, eliminating the need for calibration beads



## User-Friendly Software & Touchscreen Interface:

Enables quick setup and fast assay analysis with minimal effort



## Pre-Optimized Muse Assays:

Simplifies protocols, delivering rapid results with ease



## Simplified Data Acquisition & Analysis:

Easily analyze user-defined assays with guided data processing



## Compact Design:

Takes up minimal lab space, measuring just 8 in x 10 in (20 cm x 25 cm) without compromising performance



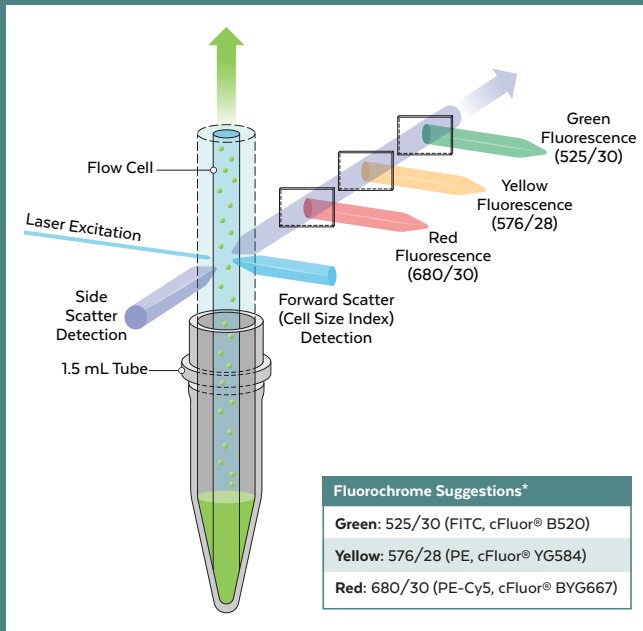
## Affordable:

Provides reliable flow cytometry analysis at a cost-effective price point, making it accessible to every lab



## Affordable, Sophisticated Cell Analysis

The Cytek Muse Micro cell analyzer achieves highly quantitative results at a fraction of the price, effort, and time of more complex systems. Utilizing miniaturized fluorescent detection and microcapillary technology, it delivers exceptionally accurate, precise, and quantitative cell analysis—surpassing other methods in both efficiency and reliability. Capable of analyzing both suspension and adherent cells ranging from 0.5–60  $\mu\text{m}$  in diameter, the Cytek Muse Micro system offers unmatched versatility, delivering superior accuracy and precision compared to conventional analysis techniques.



## 488 nm Blue Laser For Enhanced Detection

The Cytek Muse Micro system delivers high-performance cell analysis using a miniaturized microcapillary and miniaturized optics, which occupy one-tenth the space of a typical flow cytometer. Laser-based fluorescence detection of each cell event can evaluate up to 3 fluorescent parameters, forward scatter, and side scatter.



## Highly Intuitive Touchscreen Interface

The Cytek Muse Micro instrument features a highly intuitive touchscreen interface for easy step-by-step operations, requiring little expertise to run assays. The touchscreen offers prompts with simple on-screen instructions and guides users through sample loading and simple setting adjustments, to achieve accurate results—in just a few steps!



# Streamlined Workflow With “Mix-and-Read” Assays

For the assays you use most, we’ve developed and validated optimized kits that ensure reliable, high-performance results on the Cytex Muse Micro cell analyzer. Typical cell preparation protocols are streamlined and simplified, enabling quick and easy sample preparation. Minimal adjustments to software settings are needed – the Cytex Muse Micro system calculates gating parameters and thresholds on optimized Muse assays. Results are presented in both graphical and statistical formats tailored to each application, ensuring clear, unambiguous results. Spend less time on setup, reduce reagent waste, and save money.

Choose from a broad range of Muse assays or run your own assays for interrogating multiple aspects of cell biology validated with a variety of cell types. If your lab performs cell counting, cell health assessments, or signaling assays, the Cytex Muse Micro system can streamline your process and improve overall efficiency.

## Optimized Muse Assays

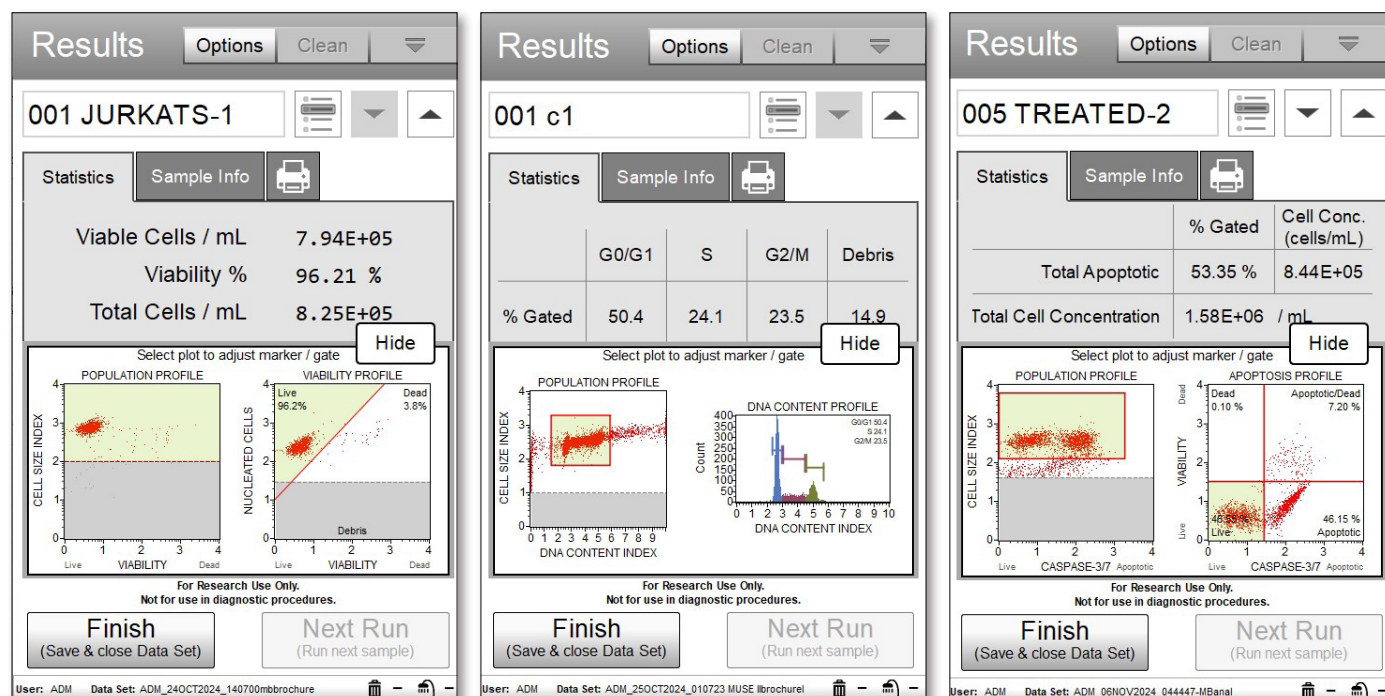
- Cell Count And Viability
- DNA Damage
- Autophagy
- CD4, CD8, And B Cell Characterization
- Cell Proliferation
- Apoptosis/Cellular Stress
- Cell Signaling
- Cell Cycle

## Customer Specific Assays

- 1-3 Color Immunophenotyping
- Fluorescent Protein Detection (GFP, RFP, etc.)
- Protein Expression Analysis
- Customer-Specific 1-3 Color Assays
- And More!



**Figure 1**



### Muse Cell Count & Viability Kit

Easy-to-read absolute total cell counts and viability measurement of live, dead, and dying cells based on differential permeability of two DNA-binding dyes.

### Muse Cell Cycle Kit

Accurately analyze cell cycle phases using DNA content with a DNA-binding dye.

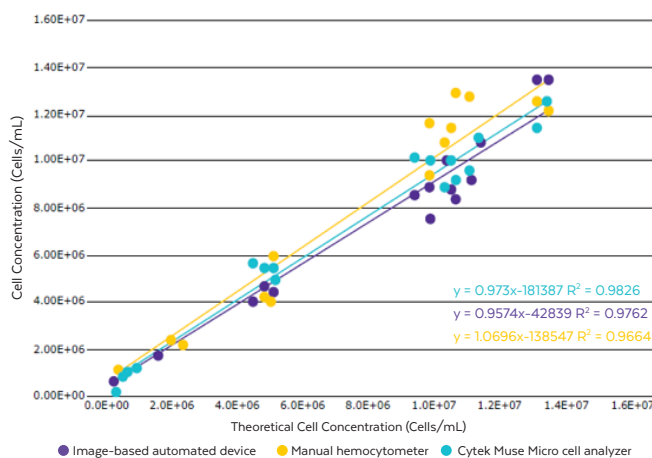
### Muse Caspase 3/7 Kit

Reliable cell apoptosis monitoring using reagents detecting caspase 3/7 activity and a dead cell dye.

## Accurate Cell Concentrations

The Cytek Muse Micro cell analyzer counts cells more accurately than a manual hemocytometer or image-based automated analysis. Manual counting using a hemocytometer is subject to human error, inconsistencies in sample handling, and counting variability, leading to less reliable results. Image-based automated systems struggle with challenges such as overlapping cells or debris, affecting their accuracy. In contrast, the Cytek Muse Micro analyzer uses advanced technology to automate the counting process, reducing human error and providing consistent, reproducible results. This level of precision is especially beneficial for applications that require reliable, high-accuracy cell counts, such as cell health analysis and immunophenotyping.

**Figure 2**



**Figure 2:** Multiple cell types (MCF-7, K562, HB, CHO-K1, and Jurkat) were counted using three methods, with cell counts averaged to determine a “theoretical cell concentration.” Each point represents the average of three replicates, and data for each method were fitted with linear regression analysis. The concentration values of the Cytek Muse Micro system exhibited the highest correlation coefficient and slope compared to the theoretical concentration, indicating superior accuracy.

# Cytek Muse Micro System Features

Input Cell Numbers	User selected; cell concentration range of 10,000–1,000,000/mL
Sample Format	<ul style="list-style-type: none"> <li>• Single loader; &lt;2 minutes per sample</li> <li>• Sample volume and number of cells counted can be specified for acquisition</li> <li>• Absolute cell counts without external beads</li> </ul>

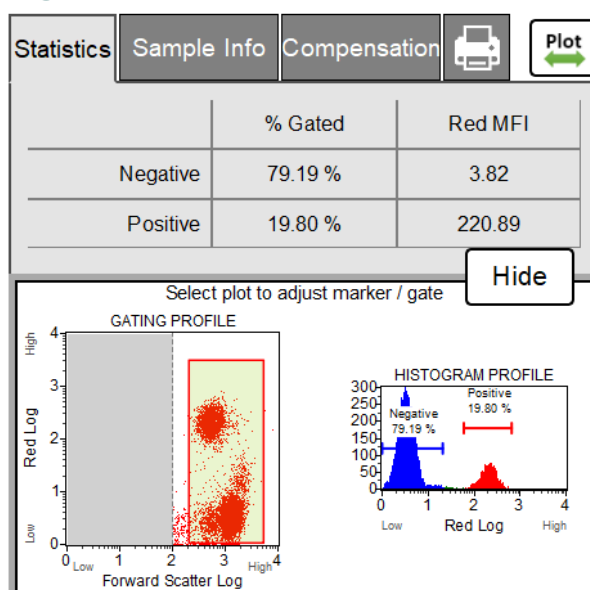
Cell Types	Homogeneous or heterogeneous, suspension or adherent, primary cells or cell lines
Cell Size	0.5–60 $\mu\text{m}$ in diameter
Data Handling	Data analyzed on system, with USB or network export of graphs, PDF files, CSV files, and raw data files

## Software For User Defined Assays

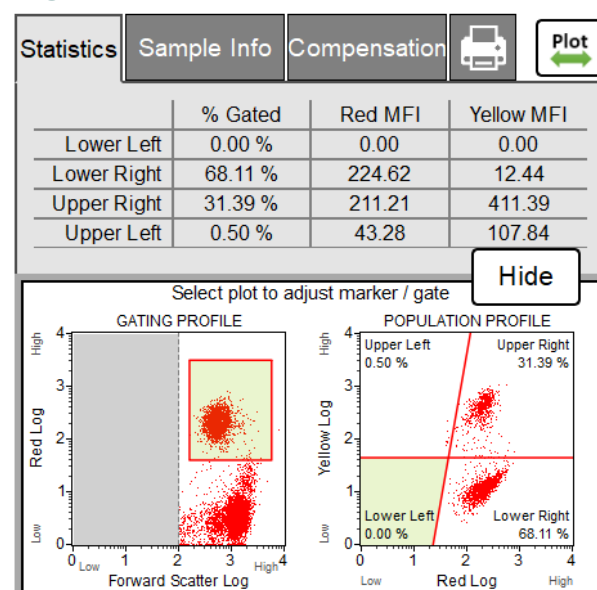
### Open Modules For Assays Up To Two Colors

The Cytek Muse Micro cell analyzer includes two open modules, allowing the user to run 2-color assays. The open modules provide flexibility to acquire 2-color (yellow and red fluorescence) experiments while still maintaining the simplicity of a guided software interface. Using the open modules, the system can be used for a variety of extended analyses such as: extracellular marker detection, intracellular detection, and the characterization and transfection efficiency of red fluorescent proteins.

**Figure 3A**



**Figure 3B**

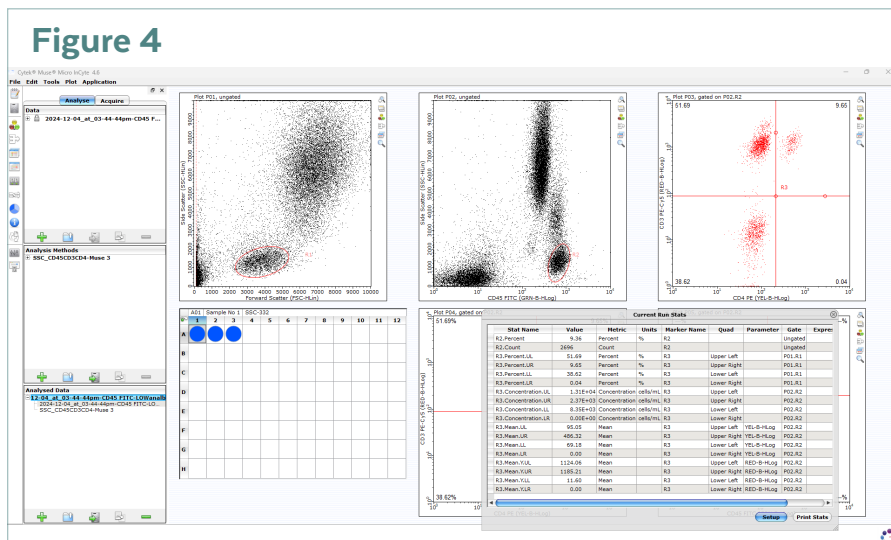


**Figure 3:** Example experiment performed using Muse Open Module Red. Blood controls were stained with CD3 PECy5 and CD8 PE conjugated antibodies and lysed in a no-wash format. Data can be viewed in **A**) histograms or **B**) a two-color dot plot; statistics include absolute counts, percentages, and mean fluorescence intensity (MFI) on cell populations.



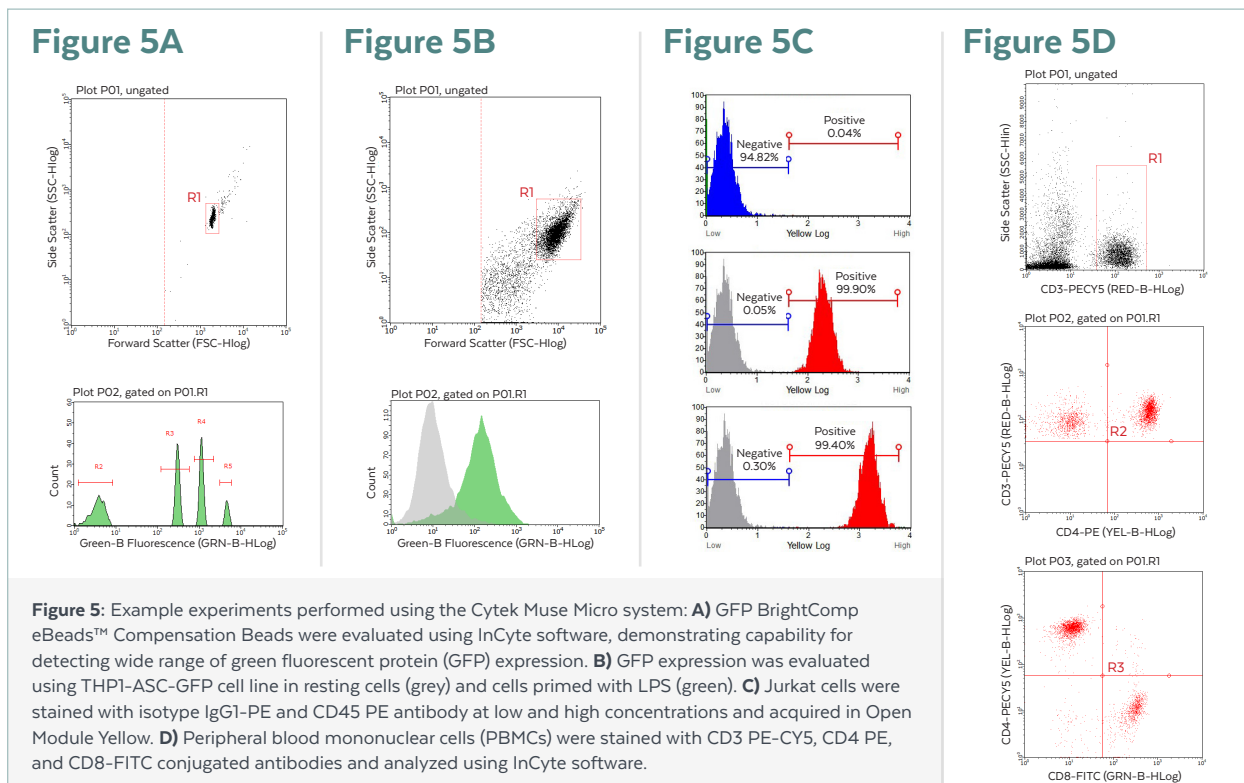
# User-Defined Assays With InCyte™ Software For Up To Five Parameters

InCyte™ analysis software for the Cytex Muse Micro cell analyzer supports simultaneous evaluation of multiple cell health markers, including studies of green fluorescent protein (GFP) expression. InCyte software also enables human or mouse immunophenotyping with FSC and SSC and three markers, providing fluorescent intensities, percentages, and absolute counts without additional beads. SSC integration enhances cell cycle analysis and improves discrimination of doublets and debris, particularly important for smaller sized particles. The software also allows open analysis of up to five parameters, offering users greater flexibility and control.



**Figure 4:** InCyte software allows for assessment of all five channels in a user-friendly format with user specific statistics. Example experiment shown using five channels from the Cytex Muse Micro system: blood controls were stained with CD45 FITC, CD4 PE and CD3 PE-Cy5 conjugated antibodies and lysed in a no-wash format. Dot plots display the gating options with statistics highlighting absolute counts, population percentages, and MFIs for each population. All assay data can be exported to FCS, CSV, and PDF formats.

## Expanded Range Of Assays



**Figure 5:** Example experiments performed using the Cytex Muse Micro system: **A)** GFP BrightComp eBeads™ Compensation Beads were evaluated using InCyte software, demonstrating capability for detecting wide range of green fluorescent protein (GFP) expression. **B)** GFP expression was evaluated using THP1-ASC-GFP cell line in resting cells (grey) and cells primed with LPS (green). **C)** Jurkat cells were stained with isotype IgG1-PE and CD45 PE antibody at low and high concentrations and acquired in Open Module Yellow. **D)** Peripheral blood mononuclear cells (PBMCs) were stained with CD3 PE-Cy5, CD4 PE, and CD8-FITC conjugated antibodies and analyzed using InCyte software.

## Ordering Information

Description	Part Number
Cytek Muse Micro System - 3 Channel	N7-00141
Cytek Muse Micro System - 5 Channel	N7-00142
Cytek Muse Micro System 3 to 5 Channel Upgrade	N7-90116
Cytek Muse Micro System Replacement Flow Cell	N7-23149

Description	Part Number
Guava Instrument Cleaning Fluid	4200-0140
Muse System Check Kit	MCH100101
Muse Yellow and Red Open Modules	0110-8617

Description	Part Number
<b>Cell Health Assays</b>	
Muse Count & Viability Kit (40 mL)	MCH100102
Muse Count & Viability Reagent (200x) (100 tests)	MCH100104
Muse Autophagy LC3-Antibody Based Kit (50 tests)	MCH200109
Muse Count & Viability Reagent (240 mL)	MCH600103
Muse Oxidative Stress Kit (100 tests)	MCH100111
Muse Nitric Oxide Kit (100 tests)	MCH100112
Muse Ki67 Proliferation Kit (100 tests)	MCH100114
Muse Cell Cycle Kit (100 tests)	MCH100106
Muse Cell Dispersal Reagent (100 tests)	MCH100107
<b>Apoptosis Assays</b>	
Muse Annexin V & Dead Cell Kit (100 tests)	MCH100105
Muse Caspase-3/7 Kit (100 tests)	MCH100108
Muse MultiCaspase Kit (100 tests)	MCH100109
Muse MitoPotential Kit (100 tests)	MCH100110

Description	Part Number
<b>Cell Signaling Assays</b>	
Muse H2A.X Activation Dual Detection Kit (50 tests)	MCH200101
Muse EGFR-RTK Activation Dual Detection Kit (50 tests)	MCH200102
Muse PI3K Activation Dual Detection Kit (50 tests)	MCH200103
Muse MAPK Activation Dual Detection Kit (50 tests)	MCH200104
Muse Bcl-2 Activation Dual Detection Kit (50 tests)	MCH200105
Muse Multi-Color DNA Damage Kit (50 tests)	MCH200107
<b>Immunology Assays</b>	
Muse Human CD8 T Cell Kit (100 tests)	MIM100102
Muse Human CD4 T Cell Kit (100 tests)	MIM100101
Muse Human B Cell Kit (100 tests)	MIM100103

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