

**Luminex**<sup>®</sup>

# Pick Your Platform

## Make Your Mark

Broadest spectrum of flow cytometry solutions, taking your research to the next level



What if you could have the power of multiparameter cellular analysis at your fingertips?

## Innovative.

Through a strong heritage and culture of innovation, Luminex has developed the broadest range of flow cytometric analyzers available. The unique capabilities of these flow cytometers can take your research to the next level.

### Amnis® FlowSight® and ImageStream® Mk II imaging flow cytometers

FlowSight® and ImageStream® Mk II imaging flow cytometers are the first and only cell analyzers to combine the best of flow cytometry and microscopy, yielding novel insights into cell biology, while powerfully expanding the range of cell analysis applications.

### Amnis CellStream® benchtop flow cytometers

CellStream® benchtop flow cytometers, featuring patented Amnis optics technology and up to 7 lasers, deliver unparalleled sensitivity plus flexibility to customize and expand the system according to your research needs and budget.

### Guava® easyCyte™ benchtop flow cytometers

easyCyte™ benchtop flow cytometers, featuring patented microcapillary fluidics and up to 3 lasers, generate accurate absolute cell counts, consume little sample, produce low waste, and are easy to use and maintain.

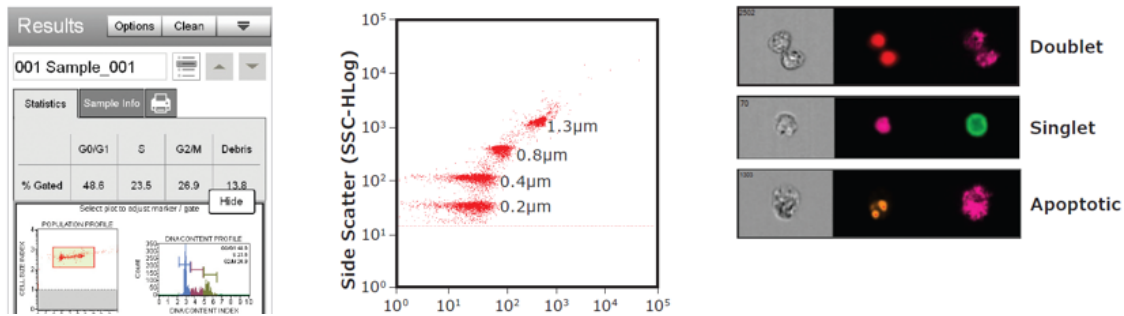
### Guava® Muse® Cell Analyzers

The Muse® Cell Analyzer packs 3-parameter analysis into a compact, easy to use benchtop device, making flow cytometry accessible to anyone, at any time.

What if anyone in your lab could easily run sophisticated cell health analyses, clearly delineate cell populations, and even visualize and quantify individual cellular events?

## Intuitive.

Our flow cytometry systems are designed for ease of use, so you can focus on your research and advance your discovery. Our powerful, yet intuitive, analysis software is designed to expedite results for common assays, while providing the versatility to run your custom assays.



Representative data from Guava® Muse®, Guava® easyCyte™ and Amnis® FlowSight®

How much more would you accomplish with simple, intuitive assays based on powerful flow cytometry principles?

## Flexible.

Our flow cytometry systems are supported by a broad portfolio of reagents and kits to help you gain greater insights into cellular status and processes. Muse and FlowCollect pre-optimized, multi-color kits simplify assessment of cell health, cell signaling, and other applications.

Through innovation, ease of use, and flexibility, we have created simple, versatile, sensitive, visual, and boundless cytometric analysis platforms.

Look inside to pick your platform and make your mark...  
[luminexcorp.com/flowcytometry](http://luminexcorp.com/flowcytometry)



# Guava® Muse® Cell Analyzer



## Simple.

Are your Western blots lacking the accurate single cell data you are looking for? Would an easy to use flow cytometer get you to publication faster?

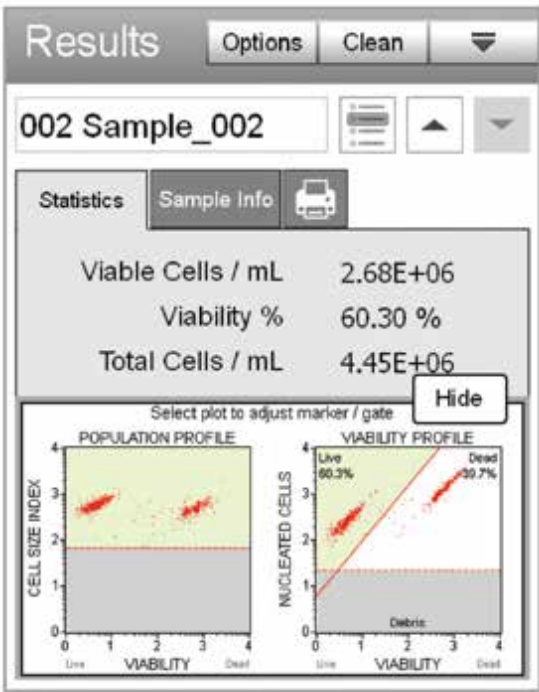
### Flow cytometry for any scientist in any lab.

Get flow-based data quickly and easily for the most essential cellular assays such as cell count, viability, apoptosis indicators, cell cycle, and popular signaling pathway markers. The Muse Cell Analyzer packs 3-parameter analysis into an affordable, easy to use benchtop device, making flow cytometry accessible to anyone, any time.

- Miniaturized flow technology, with a footprint of just 8 in × 10 in (21 cm × 26 cm), allows for conservation of benchtop space
- Novel, easy to use touchscreen interface allows for simplified acquisition and analysis
- Simple, intuitive software requires no flow expertise
- Mix-and-read, fully optimized assays available for popular cell health applications (count and viability, cell cycle, apoptosis, oxidative stress, and key cell signaling pathway markers)
- Surprisingly affordable

### Data output for the Muse Count and Viability Assay.

Healthy Jurkat cells were mixed with heat-killed Jurkat cells and stained with the Muse Count & Viability Reagent, and then analyzed on the Muse Cell Analyzer. Data output includes summary results (not shown) and optional dot plots (shown below). Reported statistics include viable cells/mL, % viability, and the total cells/mL. The left hand dot plot shows viability vs. cell size; the right hand plot shows viability vs. nucleated cells, which allows you to assess the level of cellular death in your population.



# Guava® easyCyte™ Flow Cytometer



## Versatile.

Have you been limited by the lack of access to large, shared cytometers, or the learning curve on more complex instruments? Do you need a flow cytometer with the flexibility to easily run simple assays, but with the analytical power of a large instrument?

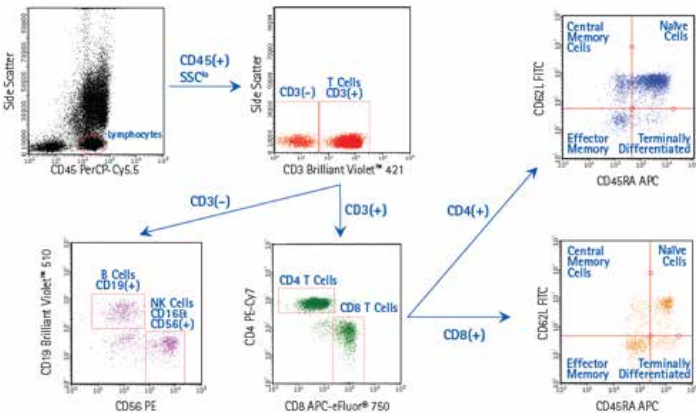
### Unleash what's possible.

Twenty years ago, Guava Technologies introduced the first compact benchtop flow cytometers. Today, the easyCyte line has been updated to offer up to 3 lasers and 14 parameters with greater sensitivity and optional high throughput capabilities. Powered by intuitive software, easyCyte flow cytometers are some of the most dynamic and flexible benchtop systems available.

- Up to 3 lasers and 14 parameters on a benchtop instrument allows for flexibility when selecting an instrument
- Microcapillary technology enables absolute cell counting
- Microcapillary fluidics design eliminates sheath fluid and waste carboys
- Intuitive software includes comprehensive cell-health related assays for ease of answers
- High throughput option for reliable, walkaway results

### 8-color immunophenotyping using easyCyte 12HT.

Using a simple, no-wash protocol, whole blood was stained with 8 different CD markers. Simple, intuitive spectral compensation and serial gating allows for resolution of B cells, NK cells, CD4+ T cells, and CD8+ T cells. Sensitive mean fluorescent intensity detection permits subsequent demarcation of T cells into naïve, terminally differentiated, and central or effector memory phenotypes (shown below).





# Amnis® CellStream® Flow Cytometer



## Sensitive.

Are you pushing the detection limits by trying to analyze dimmer and smaller sample populations? Do you need high sensitivity and access to a variety of lasers to advance your research?

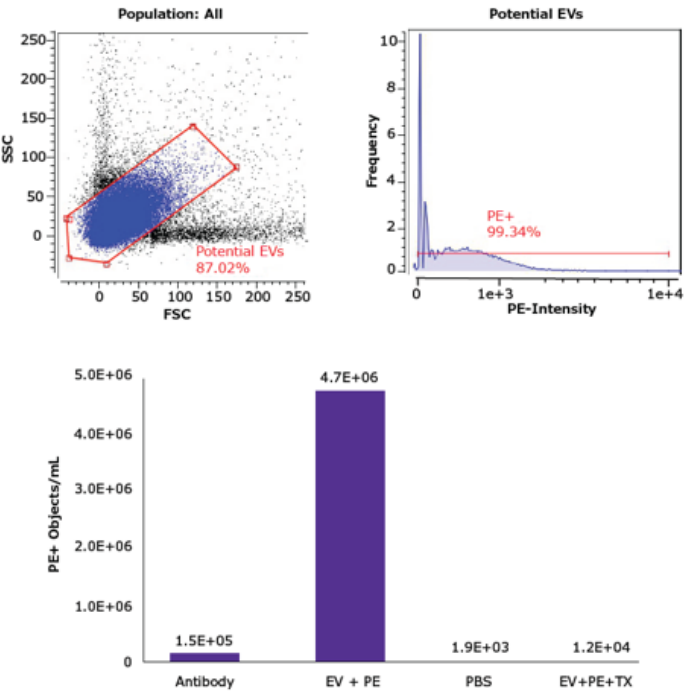
### Capabilities today. Flexibility for tomorrow.

Discover unparalleled fluorescence sensitivity and flexibility in a compact, affordable system. With patented optics technology, this flow cytometer uses a charge-coupled device (CCD) camera for detection and offers fully-configurable 1- to 7-laser capacity. Systems are easy to upgrade in the lab, allowing researchers to customize according to experimental needs and budget.

- Time Delay Integration (TDI) sensor and CCD camera technology for high fluorescence sensitivity, enabling the detection of dim and small particles
- Detection of small particles, allowing even extracellular vesicles and bacteria to be identified
- 1 to 7 lasers provide up to 22 detection channels, enabling multiplexing and offering high flexibility for experiments
- Standard 96-well plate autosampler for high-throughput analysis
- Event Gallery aids sample verification and troubleshooting
- Aspect ratio calculation allows for doublet discrimination
- Rapid, on-site upgrades to save you time and allow you to expand capabilities

### Superior detection of extracellular vesicles.

The diagnostic and therapeutic potential of extracellular vesicles (EVs) is currently under intense investigation. In this study, the CellStream Flow Cytometer demonstrates clear detection of EVs. Red blood cell (RBC)-derived EVs were stained with anti-CD235ab-PE. Control samples were collected for antibody only, PBS, and labeled RBC EVs incubated with Triton®-X 100 (TX). Using the potential EVs gate (top left), PE+ events were identified (top right). The chart shows PE+ objects/mL for the control samples and the CD235ab-PE labeled sample (bottom).



# Amnis® FlowSight® Imaging Flow Cytometer



## Visual.

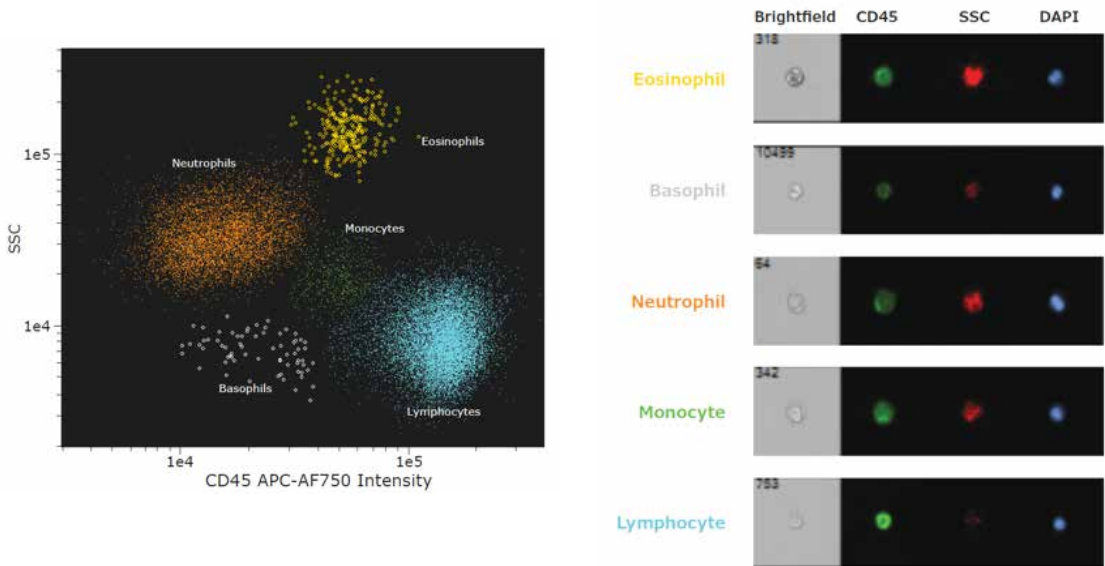
Are your heterogeneous cell populations poorly delineated? Do you need high fluorescence sensitivity and the ability to inspect individual cells to identify rare phenotypes?

### Flow cytometry with vision.

Get high-sensitivity flow cytometry and imagery with 20X multi-color images of every cell to visualize fluorescence at the cell membrane, within the cytoplasm, or in the nucleus. Perform experiments that require morphology information and effortlessly identify cell doublets and distinguish debris to improve gating and analysis.

- Up to 12, 20X multi-color images of each cell, including side scatter and brightfield, at up to 5,000 events per second
- Powerful IDEAS® image analysis software with easy to use fluorescence compensation and analysis wizards
- Upgradable to 4 lasers and automated sample loading for walkaway operation

### Five-part white blood cell differential with a single marker.



The FlowSight imaging flow cytometer excels at the resolution of mixed subpopulations in heterogeneous samples. Human peripheral blood mononuclear cells (PBMC) are partitioned into 5 distinct populations using CD45 and side scatter intensity. High fluorescence sensitivity and tight coefficients of variation (CVs) resolve monocytes (green) from lymphocytes (blue) and facilitate the detection of rare basophils (white). The dedicated side scatter laser clearly resolves eosinophils (yellow) from neutrophils (orange).

# Amnis® ImageStream®<sup>MX</sup> Mk II Imaging Flow Cytometer



## Boundless.

What if you could resolve subcellular events? Just think of what you could learn about cell biology by measuring morphological changes, cell-cell interactions, and even cell signaling events like nuclear translocation.

### Cytometry without limits.

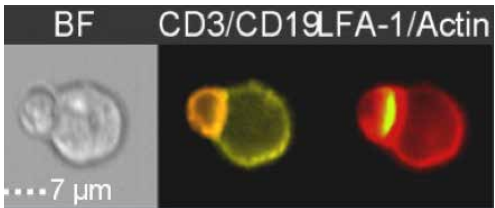
Revolutionize your research with high-resolution, multi-color images taken at up to 5,000 cells per second. The ImageStream<sup>MX</sup> Mk II imaging flow cytometer combines microscopy with up to 60X magnification with the speed, sensitivity, and phenotyping abilities of high-sensitivity flow cytometry.

- 5,000 cells/second with real-time intensity compensation — ideal for rare cell analysis — for up to 60X image magnification
- Powerful IDEAS® image analysis software with fluorescence compensation and analysis wizards for ease of use
- Up to 7 lasers provides for flexibility for multi-color experiments
- Small sample volumes of 20-200 µL allows you to run with minimal reagents and waste

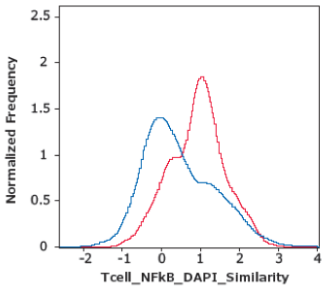
### T:APC conjugates.

The ImageStream<sup>MX</sup> Mk II Instrument enables a vast number of applications by combining microscopy with flow cytometry. This example highlights the identification of cell conjugates, interrogation of the point of contact, and measurement of cell activation by measuring proteins on the cell surface, at the synapse, and in the cytoplasm and nucleus. All accomplished simultaneously, automatically, and objectively on significant numbers of cells.

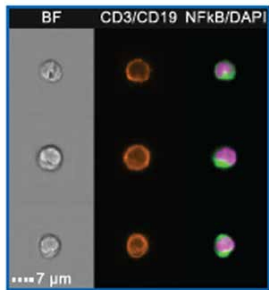
Stimulating the TCR with cognate ligand/MHC complexes presented by APCs results in the formation of an immunological synapse, recruitment of molecules to the synapse, T cell activation, and nuclear translocation. In this example, we measured synapse formation, recruitment of LFA-1 to the synapse and NFκB translocation in T cells, which were in contact with SEB-loaded APCs (T cell-APC conjugates).



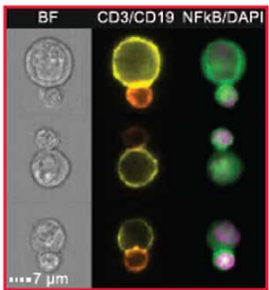
Cell conjugate with synapse. T cell (orange), APC (yellow), Actin (red), LFA-1 (green).



Single T-cells, median similarity score = 0.29



T cell-APC conjugates, median similarity = 0.98



Similarity score histogram of single T cell (blue) and T cells in T cell-APC conjugates (red). Representative images of cells with median Similarity scores for each are shown: BF, brightfield; CD3-PE-TexasRed (orange); CD19-PE (yellow); NFκB-FITC (green); DAPI (pink).

# Which Instrument Is Right For You?

		Non-Imaging Flow Cytometers			Imaging Flow Cytometers	
		Guava® Muse® Cell Analyzer	Guava® easyCyte™ Flow Cytometer	Amnis® CellStream® Flow Cytometer	Amnis® FlowSight® Imaging Flow Cytometer	Amnis® ImageStream® <sup>MX</sup> Mk II Imaging Flow Cytometer
		Simple	Versatile	Sensitive	Visual	Boundless
Function	Lasers	1	1-3	1-7	1-4	1-7
	Detection type	PMT	PMT	CCD - TDI	CCD - TDI	CCD - TDI
	Sample loading	Single tube	Single tube or 96-well plate	Single tube or 96-well plate	Single tube or 96-well plate	Single tube or 96-well plate
	Parameters	Intensity	Up to 14	Up to 22	12	Up to 12
Benefits	Morphology	N/A	N/A	3	>1,000	>1,000
		N/A	N/A	N/A	20x	Up to 60x
	Magnification	Pre-optimized kits	Open	Open	Open	Open
	Flexibility	Low-Medium	Medium	Highest	High	Highest
	Microscopy applications	No	No	No	Yes	Yes

CCD, charge-coupled device; PMT, photomultiplier tubes; TDI, time delay integration



## Pick your platform. Make your mark.

To learn more about cellular analysis technologies or to request a demonstration, please visit:

[luminexcorp.com/flow-cytometry-and-imaging/](http://luminexcorp.com/flow-cytometry-and-imaging/)

# Flow Cytometry Reagents

Our flow cytometry systems are supported by a broad portfolio of reagents and kits to help you gain greater insight into cellular status and processes. Muse, Guava, and Amnis pre-optimized, multi-color kits simplify assessment of cell health, cell signaling, and other applications.

Learn more at: [luminexcorp.com/flow-cytometry-kits-and-reagents/](https://luminexcorp.com/flow-cytometry-kits-and-reagents/)

## Muse Assays

The Muse Cell Analyzer uses fluorescent reagents to detect and measure 3 parameters for every cell, with little or no sample preparation required. Muse assays are available for precision cell counts, as well as single cell measurement of critical cell parameters, including:

Part Number	Product Name
System Maintenance Kit	
MCH100101	Muse® System Check Kit
Cell Health And Apopotsis Kits	
MCH100102	Muse® Count & Viability Kit (40mL)
MCH600103	Muse® Count & Viability Kit (240mL)
MCH100104	Muse® Count & Viability Kit 200X
MCH100105	Muse® Annexin V & Dead Cell Kit
MCH100106	Muse® Cell Cycle Kit
MCH100107	Muse® Cell Dispersal Reagent
MCH100108	Muse® Caspase-3/7 Kit
MCH100109	Muse® MultiCaspase Kit
MCH100110	Muse® MitoPotential Kt
MCH100111	Muse® Oxidative Stress Kit
MCH100112	Muse® Nitric Oxide Kit
MCH100114	Muse® Ki67Proliferation Kit
Algae Kits	
MIA100101	Muse® Algae Count & Viability Kit
MIA100102	Muse® Algae Nile Red Kit
Malaria Detection Kits	
MPA100101	Muse® <i>P.f.-P.v.</i> Antigen Detection Kit
MMA100101	Muse® RBC Invasion Kit

Part Number	Product Name
Cell Signaling Kits	
MCH200101	Muse® H2A.X Activation Kit
MCH200102	Muse® EGFR-RTK Activation Kit
MCH200103	Muse® PI3K Activation Kit
MCH200104	Muse® MAPK Activation Kit
MCH200105	Muse® Bcl-2 Activation Kit
MCH200107	Muse® Multi Color DNA Kit
MCH200108	Muse® PI3/MAPK dual Activation Kit
MCH200109	Muse® Autophagy LC3-Antibody Based Kit
MCH200113	Muse® STAT1 Activation Kit
MCH200114	Muse® EGFR/MAPK Activation Kit
Immunology Kits	
MIM100101	Muse® Human CD4 T Cell Kit
MIM100102	Muse® Human CD8 T Cell Kit
MIM100103	Muse® Human B Cell Kit
MIM100104	Muse® Human Lymphocyte CD25 Kit
MIM100105	Muse® Human Lymphocyte CD69 Kit

## Guava Flow Cytometry Kits

Our optimized turnkey assay kits shorten your sample preparation time, minimize assay development, and facilitate data analysis. With fewer incubation and wash steps than other flow-based kits, these assays are ideal for measuring parameters such as viability, cell cycle distribution, DNA damage, mitochondrial health, apoptosis index, and autophagy. All kits are also cross-platform tested on traditional sheath-based flow cytometers. All reagents (except cells) are included, and thus no assay development time is needed. Guava InCyte™ Software contains assay-specific software modules to help you quickly obtain significant data.

Part Number	Product Name
System Maintenance Kits	
4200-0140	Guava® Instr Clean Fluid (ICF)
4500-0025	Guava® Easy Check Kit
Cell Health And Apopotsis Kits	
4000-0040	Guava® ViaCount Reagent (40mL)
4000-0041	Guava® ViaCount Reagent (240mL)
4500-0110	Guava® ViaCount Flex Reagent (100 Tests)
4700-0060	Guava® ViaCount Flex Reagent (500 Tests)
4700-0050	Guava® ViaCount Cell Dispersal Reagent
4500-0450	Guava® Nexin Kit (100 tests)
4500-0455	Guava® Nexin Kit (500 tests)
4500-0220	Guava® Cell Cycle Kit
4500-0121	Guava® TUNEL Kit
4000-0061	Guava® Express 7-AAD Reagent
FCCH100106	Guava® MitoDamage Kit
FCCH100108	Guava® Annexin Red Kit
FCCH100110	Guava® Cytochrome c Kit
FCCH100171	Guava® Autophagy LC3 Antibody-based Detection Kit
FCCS025153	Guava® DNA Damage Histone H2A.X Dual Detection Kit
FCCS100182	Guava® Histone H2A.X Dual Detection kit
Algae Kits	
FCIA100101	Guava® LipidScreen Green Kit

## Amnis Kits for Imaging Experiments

Product Name	Description	Part Number
NFkB Translocation Kit	2-color assay kit for rapid detection and quantitation of NFkB translocation from the cytoplasm to the nucleus.	ACS10000
Protein Aggregate & Silicone Oil Detection Kit	2-color assay kit for discrimination of silicon oil droplets and protein aggregates using a convenient mix-and-read assay.	APH10001
Intracellular Staining Kit	Optimized assay complete with protocols, buffers, and DNA dye to be used with your choice of antibodies for intracellular staining. Optimized to maintain cellular integrity.	ACS10002



For more information, please visit [luminexcorp.com/flowcytometry](https://luminexcorp.com/flowcytometry)

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