The guava easyCyte flow cytometry systems are uncomplicated instruments that deliver complex cell analysis—right on your benchtop. The culmination of over a decade of flow cytometry expertise, these instruments use smaller sample, generate less waste, and are easier to use and maintain than traditional flow cytometers—all while providing the power you need in the most compact format available.

Single blue laser (488 nm) or dual blue (488 nm) and red (640 nm) excitation lasers provide up to eight simultaneous detection parameters, including six fluorescent colors plus forward and side scatter for size and complexity determination. The guava easyCyte family also meets your sample throughput needs by offering both single sample and multi-sample processing. The guava easyCyte HT instruments provide high throughput analysis with a robotic sample tray that automatically handles a 96-well microplate and up to 10 sample tubes. While the guava easyCyte systems enable single sample processing and have additional cost savings.

Like all guava systems, the easyCyte family uses patented microcapillary technology that eliminates the need for sheath fluid and enables absolute cell counts without the need for reference beads. Complemented by our intuitive InCyte™ software, the systems provide flexible data collection and analysis with the option to use optimized modules or design your own assays.

**Features**

- **Customizable—up to eight detection parameters**
  Choose between one or two laser systems to provide simultaneous detection of up to six fluorescent colors, plus forward and side scatter

- **“Green”, microcapillary fluidics**
  No sheath fluid required, enabling for small samples and low waste

- **Absolute cell counts**
  Determine accurate cell numbers and population percentages without the need for reference beads

- **Flexible, single- or multi-sample (96 well) or single sample processing**
  Choose either walk-away automation for a 96-well plate and up to 10 sample tubes, or single sample processing

- **Intuitive software interface**
  Easy analysis with turnkey assays and customizable options
Anatomy of the guava easyCyte Systems

**Intuitive software** provides real-time data acquisition and analysis, letting you visualize up to eight plots simultaneously, while still accessing operation and data analysis functions—all from the same laptop screen.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>System</th>
<th>easyCyte 5HT</th>
<th>easyCyte 6HT</th>
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<tr>
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**Microcapillary flow cell** requires no sheath fluid and is user-replaceable.

**Up to six-color detection** made possible by one (blue) or two excitation lasers (blue & red).

**Small footprint** saves valuable laboratory space:
- Width: 20.3 in (51.5 cm)
- Depth: 23.4 in (59 cm)
- Height: 10.0 in (25.4 cm) (does not include laptop)

**Wash vial** offers a high-pressure purge to easily clear obstructions from the flow cell.

**Waste vial** collects less than 80 mL of waste in a typical 8-hour workday.

**Robotic sample tray** provides walk-away automation for a 96-well microplate and up to 10 sample tubes.

**Intuitive software** provides real-time data acquisition and analysis, letting you visualize up to eight plots simultaneously, while still accessing operation and data analysis functions—all from the same laptop screen.
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>System</th>
<th>easyCyte 5</th>
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<td>Digital Signal Processing</td>
<td>✓</td>
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<td>✓</td>
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</tbody>
</table>

**Microcapillary flow cell** requires no sheath fluid and is user-replaceable.

**Up to six-color detection** made possible by one (blue) or two excitation lasers (blue and red).

**Small footprint** saves valuable laboratory space.
- Width: 17.75 in (45.1 cm)
- Depth: 17.25 in (44.5 cm)
- Height: 8.75 in (22.2 cm) (does not include laptop)

**Single sample loader** Swivel arm functionality, holds two tubes and allows instant acquisition.

**Waste vial** collects less than 80 mL of waste in a typical 8-hour workday.

**Wash vial** offers a high-pressure purge to easily clear obstructions from the flow cell.
MICROCAPILLARY FLOW CYTOMETRY

At the heart of every guava system is a patented, microcapillary flow cell that eliminates the need for sheath fluid. This translates into less complexity, smaller samples, and minimal waste, saving you both time and money. Plus, since the flow cell is self-aligning and user-replaceable, you can remove it yourself at any time for cleaning and maintenance—no more expense or downtime for service visits. And, by eliminating complicated fluidics, we've created a tiny instrument footprint that fits into the tightest spots, saving valuable laboratory space.

- No laser alignment or sheath fluid required
- Uses smaller sample volume and generates less waste than traditional systems
- Flow cell is user replaceable for minimal downtime
- Aspirates sample directly from tube

### HOW IT WORKS

The guava easyCyte systems use patented, microcapillary, laser-based technology capable of detecting mammalian and microbial cells and beads. A sample of fluorescently labeled cells is aspirated into a uniquely proportioned microcapillary flow cell. A red or blue diode laser excites the cells and each cell emits signals that are individually detected by photomultipliers and a photo diode. Guava software modules show all relevant data and results immediately.

### INTEGRATED AUTOMATION

The guava easyCyte HT systems offer flexibility for sample processing and high throughput needs

- Automated sampling from 96 well microplates for walk away sample processing
- Automated sampling from 1-10 sample tubes for quick sample analysis
- Automated cleaning functions for easy instrument maintenance
**DUAL LASER EXCITATION**

The guava easyCyte family of flow cytometry uses one or two lasers, blue (488 nm) or blue (488 nm) and red (640 nm) to achieve up to six-color detection. In the 2 laser systems, the lasers overlap spatially, and are modulated out of phase with each other at a high frequency so that each particle is sampled many times as it travels through the overlapped beams. Modulation is particularly important for identifying dyes which have overlapping emissions, such as PE-Cy7 (blue laser excitation) and APC-Cy7 (red laser excitation). Unlike spatially separated beams, modulation also eliminates the need for time-delay calibration, simplifying the overall operation of the instrument.

- Up to eight-parameter analysis (six colors, plus forward and side scatter for size and morphology determination)
- Compatible with commonly used fluorophores and dyes
- Eliminates the need for time-delay calibration

---

### Fluorochromes optimized on the easyCyte systems

![Fluorochromes optimized on the easyCyte systems](image)

- **GREEN**
  - FITC
- **YELLOW**
  - PE
- **RED1**
  - PE-Cy5.5
- **RED2**
  - PE-Cy7
- **NIR1**
  - APC-Cy7
- **NIR2**
  - APC-Cy7

**NIR** – Near InfraRed
**FITC** – Fluorescein
**PE** – Phycoerythrin
**APC** – Allophycocyanin

See [www.millipore.com/flowcytometry](http://www.millipore.com/flowcytometry) for additional fluorochromes with respective laser configuration.

* Optimized dye for easyCyte 5, 6, 5HT and 6HT
** Optimized dye for easyCyte 6-2L, 8, 6HT-2L and 8HT

---

### Immunological Phenotyping-6 Color Assay

<table>
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<tr>
<th>Parameter</th>
<th>Percent (%)</th>
<th>Absolute Count</th>
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<tr>
<td>CD3+</td>
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<td>CD3+ CD8+</td>
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<td>712</td>
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<td>CD3+ CD4+</td>
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<td>CD19+</td>
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<td>4/8 Ratio</td>
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50 µL adult human blood was stained for 15 minutes at room temperature with a cocktail containing CD3-FITC, CD16-PE, CD56-PE, CD45-PerCP-Cy5.5, CD4-PE-Cy7, CD19-APC, and CD8-APC-Cy7. After incubation, cells were lysed and fixed with 900 µL guava lysis solution containing 0.2% PFA. Samples were then acquired on the guava easyCyte 8HT system. CD45 positive cells were gated into a SSC vs. CD3 (FITC) plot. Lymphocytes (CD3+ and CD45+) were gated into a plot comparing CD4 and CD8 positive cells. To separate the natural killer (NK) and B cells from the lymphocytes, CD3-negative cells were gated into a plot comparing CD19 (B-cells) and CD16+56 (NK cells). The counts and percentages for each application were calculated. As the figure shows, separation is visible and is comparable to other published data.
Software

With the guavaSoft™ operating system software, you’ll have all the tools you need to acquire and analyze your data. The package includes InCyte acquisition and analysis software and the guavaSuite software modules (assay-specific software modules such as ViaCount®, Nexin®, Caspase, etc).

The friendly and intuitive guavaSoft software platform guides you through setup, maintenance, cleaning, and shutdown procedures—as well as data acquisition and analysis.

By adding our assay-specific software modules, you’ll streamline your experiment and get more out of each assay. Results can be exported to spreadsheets or as industry-standard FCS 2.0 or 3.0 files for further analysis. And all software modules support compliance with 21CFR Part 11 regulations.

InCyte SOFTWARE: INTUITIVE

InCyte software is the first analysis package designed specifically to give every user the power to draw conclusions about the biological significance of data. It has an intuitive, easy-to-use interface that makes it possible to visualize and compare up to eight data sets at the same time. The software is ideally suited for interrogation of high content data sets derived from multiple functional studies commonly employed during compound screening and target identification. InCyte brings a new level of analytical power to flow cytometry, enabling users to analyze entire plates of data in less time than it takes to analyze a single sample. In addition, data acquisition is fully incorporated so that it can function as the primary data acquisition and analysis package for the instrument. Most importantly, comparative results are displayed at the experiment level rather than on an individual well/sample basis. This software is especially useful for interpreting the results of siRNA screens, apoptosis/cell cycle compound screening or other high-throughput cell-based assays.

InCyte Software

- Organize acquired data sets and select individual wells for display
- Easily create analysis templates
- Quickly link to and review previously analyzed data
- Drag-and-drop gating from one plot to another
- View up to 11 plots at once
- Real-time plot adjustments
- Heat map shows values across an entire plate
- Combine groups of data and analysis templates to construct heat maps or EC_{50} curves
- Slider bars set cut-offs or threshold values for each experimental sector
Apoptosis
Annexin V, Caspase-8, -9, and Mitochondrial depolarization (JC-1) were assayed following 4 and 24 hours. The heat map displays comparative findings for all four apoptotic markers (legend inset). No cut-off values were set to show entire range of expression for each parameter. Jurkat cells were far more sensitive than either HeLa or HEK lines. Certain compounds demonstrated caspase-8 (aklavine HCl, quinidine HCl) or caspase-9 (acriflavine HCl) specific modes of induction while others invoked cell-specific caspase pathways (2,3-dihyro-5,8-DHNQ and sanguinarine sulfate). Discrimination required early assessment (four hours) as both enzymes are actively involved during later stages of cell death. At 10 µM, JC-1 staining provided no additional information.

Visualize the entire plate of data with the range of results presented as gradations of blue color (see scale inset).

With just a few clicks, InCyte software can perform complex analysis in minutes!

Heat map allows up to 6 experiments (sectors) to be assessed simultaneously (4 viewed in this experiment).

Rapid identification of "hits" or multiparametric trends

InCyte Software Heat Map View

guavaSuite ASSAY-SPECIFIC SOFTWARE MODULES: OPTIMIZED
Get to the most meaningful data more quickly. Optimized for each assay, guava assay-specific software modules display only the plots and statistics you need. Each software module acquires and analyzes data, then exports results to a database without additional user intervention. This integrated, automated process makes your cell analysis both easier and more accurate.
ORDERING INFORMATION

**Single Sampling Instruments**

- **guava easyCyte 5 Base System**
  - Catalogue No.: 0500-5005
- **guava easyCyte 6 Base System**
  - (4th color near infrared (NIR) option, at time of purchase)
  - Catalogue No.: 0500-5006
- **guava easyCyte 6-2L Base System**
  - Catalogue No.: 0500-5007
- **guava easyCyte 8 Base System**
  - Catalogue No.: 0500-5008

**High Throughput Sampling Instruments**

- **guava easyCyte 5HT Base System**
  - Catalogue No.: 0500-4005
- **guava easyCyte 5HT to 6HT**
  - (4th color near infrared (NIR) option, at time of purchase)
  - Catalogue No.: 0500-4006
- **guava easyCyte 6HT-2L Base System**
  - Catalogue No.: 0500-4007
- **guava easyCyte BHT Base System**
  - Catalogue No.: 0500-4008

**Software Modules for guava Systems**

- **guavaSoft Software Package for guava easyCyte HT Systems**
  - Includes InCyte, Express Pro, Express Plus and guavaSuite modules
  - Catalogue No.: 0500-4115
- **InCyte Software Module for guava easyCyte HT Systems**
  - Catalogue No.: 0500-4120
- **guava Express Pro Software Module for guava easyCyte HT Systems**
  - Catalogue No.: 0500-4125
- **guavaSoft Software Package for the easyCyte Systems**
  - Catalogue No.: 0500-5115
- **InCyte Software for the easyCyte Systems**
  - Catalogue No.: 0500-5120
- **Express Pro for the easyCyte Systems**
  - Catalogue No.: 0500-5125
- **guavaSuite Software Modules for the easyCyte Systems**
  - Catalogue No.: 0500-5130

**Service Plans for guava easyCyte HT Systems**

- **Service Total Plans**
  - 1 Year**
  - 1 Year**
  - 2 Year
  - **guava easyCyte 8**
    - 0500-5870
    - 0500-5875
    - 0500-5880
  - **guava easyCyte 5 or easyCyte 6**
    - 0500-5300
    - 0500-5305
    - 0500-5310
  - **guava easyCyte 6-2L**
    - 0500-5330
    - 0500-5335
    - 0500-5340
- **Service Essential Plans**
  - 1 Year**
  - 1 Year**
  - 2 Year
  - **guava easyCyte 8**
    - 0500-5270
    - 0500-5275
    - 0500-5280
  - **guava easyCyte 5 or easyCyte 6**
    - 0500-5285
    - 0500-5290
    - 0500-5295
  - **guava easyCyte 6-2L**
    - 0500-5315
    - 0500-5320
    - 0500-5325

*At time of instrument purchase  **After instrument purchase

**FlowCelt™ Chemokine Kits**

- **Chemokine Receptor CXCR1 Surface Expression ID Kit**
  - 100 tests
  - Catalogue No.: FCXR100420
- **Chemokine Receptor CXCR4 Surface Expression ID Kit**
  - 100 tests
  - Catalogue No.: FCXR400423

**FlowCelt Stem Cell Kits**

- **Human ESC Nuclear Marker Characterization Kit**
  - 25 tests
  - Catalogue No.: FCHEC25102
- **Rodent NSC Characterization Kit (Neural)**
  - 25 tests
  - Catalogue No.: FCRCN25112
- **Rodent NSC Characterization Kit (Astrocyte)**
  - 25 tests
  - Catalogue No.: FCRCN25114

**FlowCelt Cell Cycle Kits**

- **guava Cell Cycle Reagent**
  - 100 tests
  - Catalogue No.: 4500-0220
- **guava ViaCount Reagent**
  - 100 tests
  - Catalogue No.: 4000-0040
- **Bivariant Cell Cycle Kit for DNA Replication Analysis**
  - 25 tests
  - Catalogue No.: FCCH25102
- **Bivariant Cell Cycle Kit for G2M Analysis**
  - 25 tests
  - Catalogue No.: FCCH25103

**FlowCelt Signaling Kits**

- **EGFR/MAPK Pathway Activation Detection Kit**
  - 25 tests
  - Catalogue No.: FCCS025101
- **PI3K/MAPK Dual Pathway Activation and Cancer Marker Detection Kit**
  - 25 tests
  - Catalogue No.: FCCS025100
- **PI3K-mTOR Pathway Cascade Mapping Kit**
  - 25 tests
  - Catalogue No.: FCCS025210
- **Multi-STATs Activation Kit**
  - 25 tests
  - Catalogue No.: FCCS025530
- **Multi-Color DNA Damage Response Kit**
  - 25 tests
  - Catalogue No.: FCCS025104

**Apoposis Kits**

- **guava Mitochondrial Depolarization Kit**
  - 100 tests
  - Catalogue No.: 4500-0250
- **guava MultiCaspase FAM Kit**
  - 100 tests
  - Catalogue No.: 4500-0530
- **guava MultiCaspase SP Kit**
  - 100 tests
  - Catalogue No.: 4500-0500
- **guava Nexin Reagent**
  - 100 tests
  - Catalogue No.: 4500-0450

**Other Items**

- **Flow cell for easyCyte HT systems**
  - 1 piece
  - Catalogue No.: 0500-2260
- **Flow cell for easyCyte systems**
  - 1 piece
  - Catalogue No.: 0500-5260
- **EasyCheck™ beads**
  - 1 kit
  - Catalogue No.: 4500-0025

To stay up-to-date on our integrated solutions for flow cytometry and a complete list of kits, please visit www.millipore.com/flowcytometry.

www.millipore.com/easycyte

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  - Germany: 01805.045.645
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  - United Kingdom: 0870.900.46.45

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