



Celledonia™

The benchtop cell analyser
that informs and expedites
your bioprocess.

Measure intrinsic cell properties in minutes

Celledonia™ is a benchtop cell analyser designed specifically for bioprocessing & cell line development users in the complex biologics and advanced therapies space. With Celledonia™ there are no complex marker protocols to follow, operator biases to resolve, or complicated data analyses to perform.



Near Real-Time

Measure intrinsic single-cell properties in minutes.



Label-Free

No need for markers or reagents.



Unbiased

Detect cell quality attributes without operator bias.

With minimal preparation and fast, automated data analysis of results, you can gain cellular insights in minutes without the need to be an instrumentation expert or data scientist.

How Celledonia™ works: powered by AuraCyt™

A sample of single cells in suspension, straight from your culture vessel in your media of choice, is placed onto a holder. A microfluidics device passes the cells across a microchip that measures electric field distortions over an ultra-wide range of frequencies concurrently via patent-pending AuraCyt™ dielectric spectroscopy technology.



Microfluidics

+



Dielectric
Spectroscopy

+



Semi-
conductor

+



Data
Analytics

=



Cellular
Insights

Celledonia™'s Maestro software visualizes these distortions in a fingerprint snapshot for each cell, informing the user of all detectable physiological properties of each cell in a comprehensive, coherent 2D scatterplot.

Applications: cell therapies



Live T Cell Monitoring

Predict cell health, type, and subtle cell differences such as function for T cell-based immunotherapy development

Predict cell health by distinguishing live, apoptotic and necrotic cells.

Assess heterogeneous populations by sequestering cell groups according to AuraCyt™ signatures.



Cell Differentiation Insights

Inform pluripotent expansion and differentiation strategy for stem cells

Monitor your cultured stem cell populations.

AuraCyt™ signatures allow you to monitor your stem cell cultures, providing clear and unbiased identification of optimum passage, harvest, and/or differentiation.

Applications: monoclonal antibodies



Cell Line Development

Predict high-producing,
stable clones for CHO
CLD of mAbs



AuraCyt™ signatures reliably
speed cell line development.

As early as small-scale culture,
identify those clones with the
optimum cellular physiology
to be stable, high producers
in large-scale fed batch.

Book Demo



Celledonia™ workflow

Celledonia™ is designed for ease-of-use with minimal training. Users across multiple development labs and manufacturing sites can generate consistent, reliable and informative cell analytics which allow processing decisions to be made based directly on the intrinsic properties of the cells.

1

Prepare Instruments + Reagents

Fill bottles w/ buffer & load the Celledonia™ module into the instrument.

2

Load Sample

Collect a sample from your cell culture device, filter & place in the holder.

3

Run Samples

Load samples and press "Acquire".

4

Analyse Data

Let our Maestro software do the data analytics for you, turning data into actionable insights.

Celledonia™ capabilities + specs

Product Capabilities	Specifications
Measuring technology	Ultra-wide band dielectric spectroscopy
Cell size determination range	5-30 µm cells
Event detection range	5 µm
Calibration	Internal calibration test to confirm function
Minimum sample volume	150 µl
Optimal cell concentration	500K - 1M cells / mL
Operating temperature	18-40° C
Storage temperature	0-70° C
Temperature shift rate	For optimal performance, instrument should be in a temperature stable room
Sample flow rate	10 µl / min (unless otherwise specified)
System dimensions	300 mm W x 410 mm D x 460 mm H

Software Information	Specifications
Software name	Maestro
Monitoring method	Real-time
Software type	Windows desktop application
Operating system compatibility	Windows 10/11
Data storage	Local disc
File types	.cyt, .doe, .doa
External system compatibility	Exportable to .fcs file format

Cytomos is an advanced therapy tools and technology company applying dielectric spectroscopy to develop novel cell analytics solutions that accelerate CGT + biologics development & manufacturing.

Book Demo



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