Because every cell counts.

revvity

Automated cell counting and image cytometry solutions

Push boundaries and redefine what's possible

Cellaca PLX image cytometer
Cellometer K2 cell counter
Celigo image cytometer

With expertise and a pioneering spirit, Revvity boldly leads the way in cell imaging and analysis. As creators of state-of-the-art instruments, consumables, and reagents for life science and biomedical research, we know every success shines brighter when achieved together.

Through collaborations with academia and the biotech and pharma industries, we innovate solutions that drive labs forward. Our products range from brightfield and fluorescent cell viability counters to high-throughput automated image cytometry workstations for cell quantification, analysis, and cell-based assays.

By seamlessly integrating our cell imaging and cell analysis solutions, scientists across many fields, from cell biology research to cell and gene therapy development, can reach new heights of innovation and scientific discovery.

Which type of solution is right for you?

Brightfield cell counter

Perfect if you want to switch to automatic cell counting from manual methods. This instrument is suitable for Trypan blue-stained cultured cell lines and purified primary samples.

Read more

Fluorescent cell counters

Automated fluorescent cell counters determine cell counts, concentration, and viability while automatically excluding cell debris, giving highly accurate measurements. Our instruments analyze samples in disposable slides, and in microplates for high-throughput.

Read more

Image cytometers

For cell counts and viability combined with advanced cell analysis. Our image cytometry systems have brightfield plus a number of fluorescent channels for cell-based assays with flow-like data output.

Read more

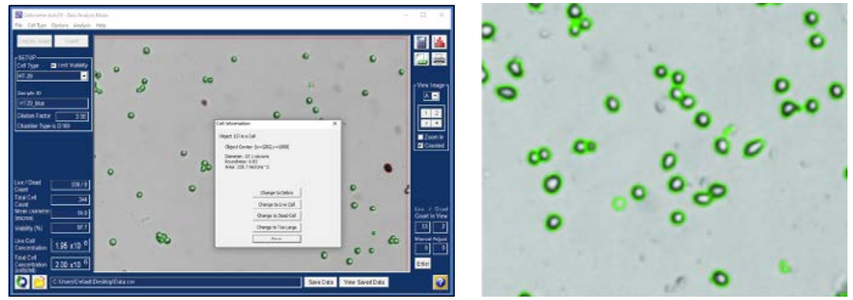
Get faster, more reliable data

Our **Cellometer® Auto T4 cell counter** accurately and easily performs cell count, concentration, and Trypan blue viability measurements on cultured cell lines and purified primary cell samples in less than 30 seconds.

This instrument uses brightfield imaging and pattern recognition software to accurately identify and rapidly count individual cells using Trypan blue, including those in clumps and irregularly shaped cells.

Cellometer Auto T4 provides:

- Cell concentration, viability, size, and morphology data from Trypan blue stained cells – even clumpy cells - in less than 30 seconds
- IQ/OQ validation and GMP/GLP options with audit trail and multi-layer access



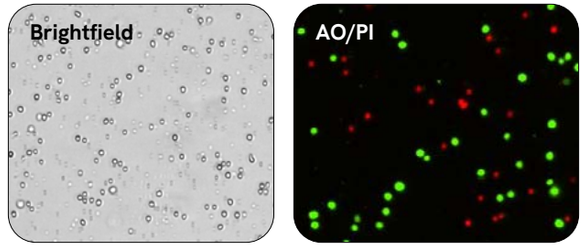
Irregularly shaped cells and cells that are grouped together are accurately counted while debris is disregarded

Choose the Cellometer Auto T4 brightfield cell counter if you are:

- Switching from manual counting with a haemocytometer
- Working with cultured cell lines and primary cell samples
- Counting low numbers of samples

Choose from our range of fluorescent cell counters

Our fluorescent cell counters are equipped with fixed single or dual fluorescent optics modules, empowering researchers to determine cell viability using fluorescent stains, ensuring accurate and efficient results. Choose from our diverse range of options, each offering unique functionalities while never compromising on capability.



The brightfield image on the left shows the combination of nucleated cells, red blood cells, platelets, and debris present in the sample. The fluorescent image on the right negates the red blood cells, showing only the live (green) and dead (red) nucleated cells for accurate cell counting and analysis.

Cellometer Auto 2000

- All-in-one, touchscreen instrument
- Designed for primary cells in complex samples containing debris and red blood cells

Cellometer Spectrum

- Advanced cell-based assay capabilities
- Provides flow-like data with predesigned templates for imaging, cell count, concentration, and viability data

Cellometer K2

- Suitable for primary cells such as hepatocytes, stem cells, splenocytes, and tumor suspensions
- Provides reliable counting of isolated nuclei from messy samples

Cellaca MX

- High-throughput for samples in multi-well microplates
- Counts 24 samples in 48 seconds with Trypan blue or 2.5 minutes with fluorescence
- Automation ready – robotic integration ability with optional API

Cellometer X2

- Optimized for analysis of small cells such as brewing yeast, wine yeast and platelets
- Measures yeast viability and vitality to optimize fermentation

Close window

Cellometer Auto 2000 – simple, automated cell counting in seconds

Get to know the Cellometer Auto 2000 fluorescent cell counter and see how its features can enhance your research.

- Dual fluorescent cell counter enables accurate automated cell count, concentration, viability and diameter measurements
- Optimized for analysis of primary cells from peripheral blood, cord blood, bone marrow, and other complex samples
- Accurate analysis of messy and clean samples throughout sample processing, from collection to separation and cryopreservation
- All-in-one cell counter with touchscreen interface to maximize bench space
- Includes pre-configured one-touch assays for various samples

The Cellometer Auto 2000 fluorescent cell counter is designed for:

- Accurate, consistent, and automated cell counting
- Counting aggregated and irregularly shaped cells
- Eliminating judgment errors and miscounts

Close window

The Cellometer K2 - designed for precise cell counting and fluorescent analysis

This versatile solution is designed for use with messy samples with significant debris, heterogeneous samples, or samples containing a low concentration of cells.

- Especially suitable for analysis of hepatocytes, stem cells, splenocytes, tumor suspension, and other complex primary cells
- Supplied with pre-configured assays and cell types to save you time
- A 21 CFR Part 11 module is available to facilitate regulatory compliance

The Cellometer K2 fluorescent cell counter is ideal for:

- Making a change from manual to automated cell counting
- Viability assays with Trypan blue and dual-fluorescent stains
- Accurate isolated nuclei counts
- 21 CFR Part 11 compliance

Close window

Cellometer X2 - optimized analysis for yeast and other small cells

This instrument can quickly identify, count, and analyze individual yeast and other small cells, providing automatic calculations for cell count, concentration, diameter, and viability.

- Dual fluorescent and brightfield imaging – staining of both live and dead cells in yeast samples
- User-friendly software and assay selection – enhanced inter-operator reproducibility, minimal training, auto-save option
- Fast results – obtain cell images, counts, size measurements, and viability calculations in 60 seconds
- Small sample size – only 20 µl of sample
- Broad dynamic range – measurable concentration range of 2.5 x 10^5 to 5 x 10^7 cells/mL using proprietary de-clustering function
- Many compatible dyes – Trypan blue, AO, PI, EB, 7AAD, AO/PI, AO/EB, Calcein AM, CFDA-AM, Calcein AM/PI, CFDA/PI

The Cellometer X2 is optimized for yeast cell concentration and viability counting, including:

- Platelets
- Brewing yeast
- Wine yeast
- Other small cells

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Cellometer Spectrum, go beyond cell counting

The Cellometer Spectrum provides 20 µl cell-based assays with flow-like data output.

- Advanced imaging capabilities for analyzing algae, hepatocytes, adipocytes, and complex yeast
- Interchangeable filters allow for customizable cell counting and viability assessment, particularly for primary cells
- Designed to handle messy samples with significant debris, heterogeneous samples, or samples with low cell concentrations
- Captures cell images, performs cell counts, measures cell sizes, and calculates viability in less than 30 seconds per sample
- Compatible with fluorescent reagents and kits for cell-based assays

The Cellometer Spectrum is ideal for:

- Small-scale simple-cell phenotyping and cell counting
- Custom assays using filter sets of your choice
- Performing two-color cell-based assays including:
  - Cell cycle
  - Cell proliferation
  - GFP/RFP transfection
  - Mitochondrial potential
  - Surface marker analysis
  - Phagocytosis

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Increase your productivity with the **Cellaca MX** high-throughput cell counter

With the Cellaca® MX high-throughput automated cell counter, your experiments are no longer limited by the number of samples you can quickly and accurately count.

- Experience high-throughput cell counting and analysis with brightfield and two fluorescent channels for use with multiple cell types and lines (including primary and messy samples)
- Count up to 24 samples with fluorescence in 3 minutes or less using a plate-based format
- Low loading volume conserves precious primary samples for additional downstream analysis in bioprocessing or cell line development workflows
- An optional 21 CFR Part 11 module is available for compliance with regulatory requirements

The Cellaca MX is ideal for:

- High-throughput cell counting and viability analysis
- Low sample volumes
- 21 CFR Part 11 compliance and automation compatibility

Image cytometry tackles your toughest research challenges

Image cytometers aren't just for cell counting and viability assessments. These systems use advanced imaging and analysis technologies to quantify specific cell characteristics for a wide variety of different biological applications.

Cytometers provide detailed cell analysis at the single-cell level, unlike ELISA or protein-based assays and at a faster rate than flow cytometry.

We offer two image cytometry systems:

The Cellaca PLX is ideal for multiple cell-surface marker detection for immunophenotyping, as well as apoptosis and fluorescent protein expression assays

The Celigo is designed for whole-well live-cell analysis and sample characterization.

Image cytometry quantifies:

- Total and individual cell counts
- Dying and damaged cells
- Live, viable cells
- Adherent cells
- Suspension cells
- Cell size
- Structural information
- Population analysis
- 3D tumor spheroids

Typical assays:

- Cell concentration
- Apoptosis
- Viability
- Immunophenotyping
- Protein expression
- Mitochondrial potential
- Reactive oxygen species
- Cell cycle

Cellaca PLX*

- Designed for multiple cell surface marker detection
- Cell and gene therapy research
- Low autofluorescence detection

Celigo*

- Designed for whole-well live cell analysis and sample characterization
- Automated imaging of suspension and adherent cells
- 21 CFR Part 11 ready
- Compatible with automation

* These instruments are image cytometers which have cell counting capability.

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Cellaca PLX image cytometer: multiplexity without complexity

The Cellaca PLX image cytometer is a cutting-edge solution to revolutionize cell analysis workflows, enabling you to count cells at high-speed, assess cell purity, analyze apoptosis functionality, and simultaneously measure viability on multiple samples – all right at the lab bench.

- Benchtop solution providing accurate measurements of various cell types
- Gain valuable insights and easily perform rapid subpopulation analysis in seconds
- Enhance your workflow efficiency by incorporating quick and cost-effective bench checks using small sample amounts before sending large amounts to a flow facility
- Determine crucial information about the percentage of live and dead cells within your transfected or transduced cell population
- Leverage the instrument's multiplexing capability, utilizing four channels, to obtain viability readouts in just one minute per sample – without compromising sensitivity
- Equipped with a 21 CFR Part 11 module for regulated environments

The Cellaca PLX is ideal for:

- Multiple cell surface marker detection
- Cell and gene therapy research
- Low autofluorescence detection

Close window

Celigo image cytometer — every cell, every well

Celigo is a plate-based benchtop brightfield and fluorescent imaging system designed for whole-well live-cell analysis and cell sample characterization.

This instrument images and analyzes cells in various types of vessels including 6 – 1536 well plates, T25, T75 flasks, 10 cm dishes, and glass slides without disturbing their natural state.

It can generate data at the individual cell level providing novel insights unlike ELISA or protein-based assays, which only provide whole-well analysis. This data generation also occurs at a faster rate than flow cytometry.

A broad range of complex cell-based assays have been optimized for Celigo including:

- Apoptosis
- Cell cycle
- Cytotoxicity
- Label-free proliferation
- Migration and invasion assays
- Fluorescent expression and detection
- Phosphorylation and phagocytosis
- Embryoid body
- 3D tumor spheroids
- Organoids

The Celigo is designed for:

- Whole-well live cell analysis and sample characterization
- Automated imaging of suspension and adherent cells
- 21 CFR Part 11 compliance
- Compatibility with automation

Make an educated choice

		Brightfield	Fluorescent cell counters					Image cytometers	
		Cellometer Auto T4 Learn more	Cellometer Auto 2000 Learn more	Cellometer X2 Learn more	Cellometer K2 Learn more	Cellometer Spectrum (5X or 10X) Learn more	Cellaca MX Learn more	Cellaca PLX Learn more	Celigo Learn more
Fluorescent Channels			2	2	2	2	2	6	4
Total Number of Fluorescent Colors Combinations			2	2	2	6	3	13	4
Sample types	Cell line	●	●		●	●	●	●	●
	Cultured primary cells	●	●		●	●	●	●	●
	Algae					●			
	Platelets			●	●	●			
	Low concentration cell lines				●	●†	●	●	●
	Yeast (clean sample)			●		●††			
	Primary cells (messy sample*)		●		●	●	●	●	●
	PBMCS, splenocytes, stem cells		●		●	●	●	●	●
	Yeast (messy sample)			●		●			
	Hepatocytes				●	●	●	●	●
	Adipocytes***		●		●	●			●
Cell-based assay capabilities**	Apoptosis (annexin V-FITC/PI)				●	●	●	●	●
	Apoptosis (caspase activity)				●	●	●	●	●
	Autophagy					●		●	●
	Cell proliferation					●	●	●	●
	Cell cycle (PI)				●	●			●
	GFP transfection		●	●	●	●	●	●	●
	RFP transfection					●	●	●	●
	Mitochondrial potential					●		●	●
	Multi-drug resistance (ABC transporter)					●		●	●
	Surface marker analysis					●		●	●
	Vitality (calcein-AM/PI)			●	●	●	●	●	●
Regulatory considerations	GXP compliant			●	●	●	●	●	●
	21 CFR pt11 ready				●		●	●	●

** A messy sample is a heterogeneous sample containing unwanted cell types, such as red blood cells, in addition to the cells of interest*
*** FCS Express license must be purchased in order to perform cell-based assays or image cytometry analysis*
**** Cellometer CHT4-PD300 slides are required for cells greater than 80 µm in diameter*

† Use 5X objective for low concentration cell lines
††Use 10X objective for yeast samples

Reagents and kits

We offer a wide range of fluorescent reagents and kits for cell counting, cell viability, and cell-based assays. Our reagents are optimized to work with Cellometer, Cellaca, and Celigo imaging systems as well as other fluorescence-based instruments.

Cell counting and viability reagents
Accurately perform fluorescence-based cell counting and viability assays. Measure percent viability and number live/dead cells.

Yeast viability and vitality reagents
Use fluorescent reagents to measure yeast viability and vitality during any stage of the brewing process.

Apoptosis reagents
Measure programmed cell death using reagents such as: Annexin V, Caspase 3/7-live-cell, and Caspase 3..

Cell cycle reagents
Label and quantify nuclear DNA with propidium iodide for for fast and simple determination of cell cycle phases.

Proliferation/tracer reagents
Efficiently identify and track cells for co-culture experiments using fluorescent proliferation and cell-labeling dyes.

Cell health/fitness reagents
Measure multiple physiological parameters; viability, apoptosis, vitality, and oxidative stress.

Antibodies
Utilize optimized antibody kits for multiplexed immunophenotyping and viability assays.

Consumables

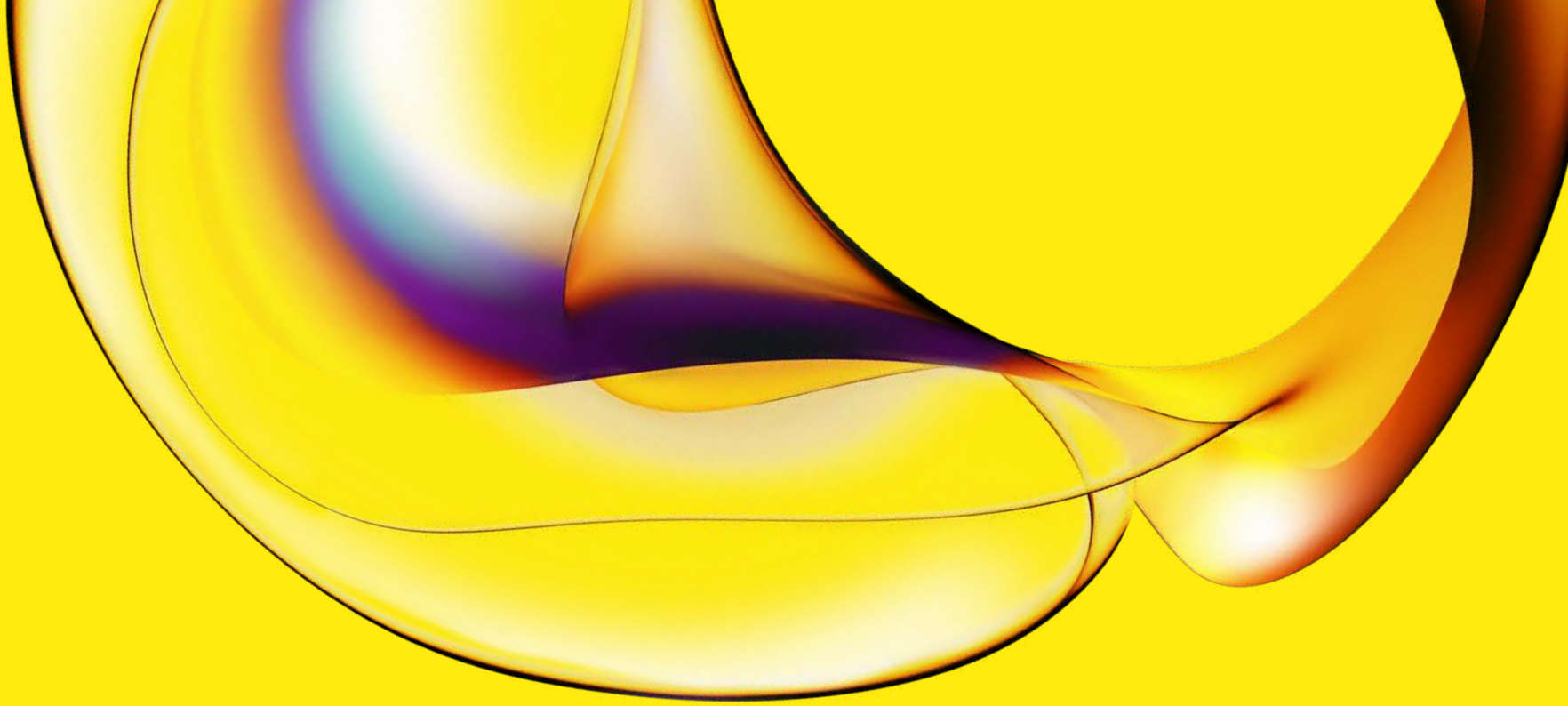
Cellometer counting slides
Compatible with all Cellometer systems, each disposable slide contains two sample counting chambers. The fixed 20 µl sample size allows for simple, automated calculation of cell concentration following imaging and counting. Image-based counting with disposable counting chambers means, no clogging, no washing, no cross-contamination and is ideal for fragile samples.

Disposable hemocytometer
For manual counting, the disposable all-in-one hemocytometer consists of a slide with two enclosed counting chambers for replicates. No cleaning or assembly of parts is required and there is no biohazard from washing. The counting chambers contain the improved Neubauer counting grid, as in a common hemocytometer, allowing the standard cell counting procedure to be followed.

Cell counting plates
High-throughput cell counting plates are available in 12 x 2-well and 3 x 8-well formats, and are designed for use with the Cellaca automated cell counters and Celigo image cytometer. They are manufactured to exacting standards with rigorous testing and validation and benefit from low plate-to-plate variability.

Cellometer and Cellaca cell counting beads
Cell counting beads enable customers to verify instrument functionality and establish routine quality control SOPs for daily, weekly, or monthly instrument performance. Beads are available for both brightfield and fluorescent cell counting checks.

Cellaca PLX low-fluorescence slides
Designed for the Cellaca PLX image cytometer, these slides are ideal for fluorescence-based multiplexed assays, such as immunophenotyping or fluorescent protein expression. The slides require a small sample volume — only 12 µL per sample.



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