

**Your Partner
in Cell Research**



**Cell Culture
Cell Counting
Imaging
Flow Cytometry
Cell Analysis**



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Your Partner in Cell Research

Cell Culture

Cell Counting

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Flow Cytometry

Cell Analysis

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Smart Solutions in Cell Research

OLS Life Science School

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Cell Counting

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OLS Life Science School

Increase your expertise

- ▶ Specialized workflow training
- ▶ Individual training
- ▶ Customized troubleshooting
- ▶ Supporting assay development
- ▶ Research consultation

The knowledge database of OLS's Life Science School offers continuing teaching and research material on latest trends of cell culture applications and solutions to address analytical challenges.

The contents are designed to support diverse audiences ranging from novice to experienced groups – become a member of this dynamic community and explore cutting-edge technologies. We work closely with several professional partners (Agilent Technologies, Cell Microsystems, Defined Bioscience, HiMedia, Proteintech, Nanoentek, PAN Biotech, Idea Bio-Medical, InnoME) that form an integral part of our learning center.

Training programs cover particular topics such as immuno-oncology, stem cell research, drug discovery and many more. The courses will be dealt with in the following formats: open/on-site (site in Bremen) and at your desired location with a workflow option. This will include active participation of your employees and colleagues in the development of processes and standards; this increases compliance.

Webinars

Our team is excited to showcase a variety of life science applications of your choice to enhance your skillset on the latest technologies and learn from industry professionals. Subscribe to stay informed about our upcoming webinars. Alternatively, explore our virtual on-demand events at your convenience.

Featured On-Demand Webinars:

- Novel methods for the development of stem cell-derived 2D & 3D models
- Investigate immune cell killing in real-time
- A new era in Flow Cytometry- artificial cell controls
- Simplify your 3D cell culture
- Microvesicle detection and multicolour cytometry on the 32 parameter NovoCyte® Penteon™ benchtop flow cytometer
- High content imaging and its benefits in the preclinical stages
- Time-Lapse microscopy of spheroids with zenCELL owl microscope
- Integrated biobanking solutions
- Cell counting made easy and reproducible - advantages of CASY Cell Counter and Analyzer





Lab Course Highlights

Expand Your Knowledge in 3D Cell Culture

An in-depth introduction organoids and spheroids:

Study the influence of the three-dimensional arrangement on cell functions, cell-cell interactions, interactions with the extracellular matrix (ECM) - this course is an efficient and quick start for a successful and reproducible 3D cell culture.

Hands-on Experience in Flow Cytometry Essentials

Overview to the workflow of flow cytometry: Covers the principles of flow cytometry, operation of flow instrumentation, sample preparation, acquisition and analysis of data to analyze the biological and physical characteristics of a population of cells or particles suspended in a fluid stream.

Theoretical and Hands-on Topics

- Introduction to 3D cell culture: cells in the tissue, extracellular matrix, co-culture systems
- Types of 3D cell culture: spheroids, organoids, scaffolds
- Applications in drug discovery & development
- Recent advances in stem cell expansion: microcarriers, bioreactor-based approaches, encapsulation
- Trouble-shooting skills & case studies

Theoretical and Hands-on Topics

- The basic principles of flow cytometry methods
- Instrumentation: fluidics, optics, electronics
- Small particle analysis: microvesicle analysis & microbiological research
- Hands-on practice with sample preparation and multicolor staining, phenotyping
- Design of analysis templates and gating strategies
- Data acquisition and analysis: cytometer settings, compensation

Cell Counting

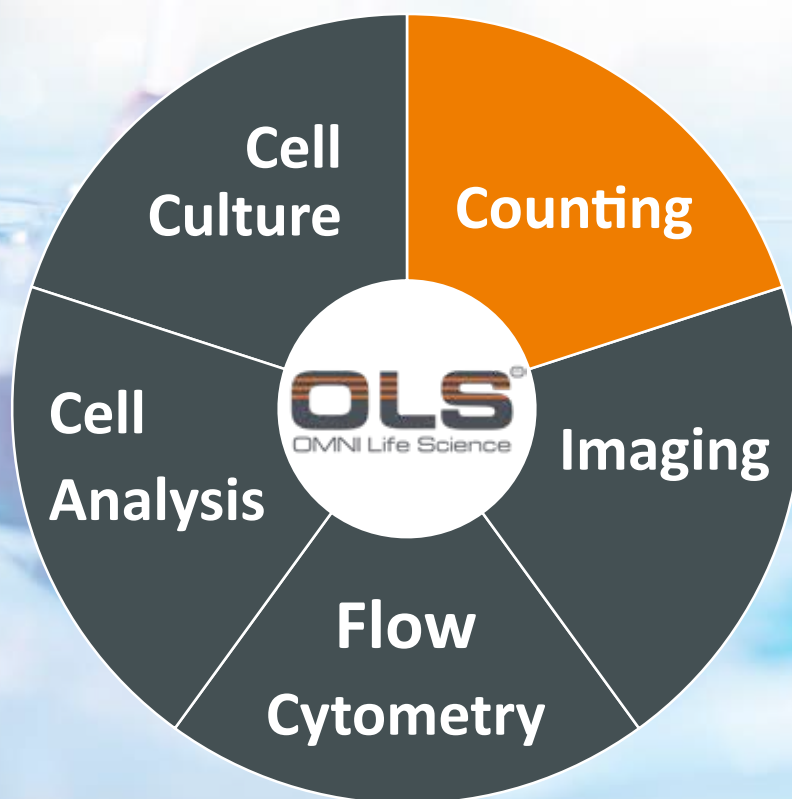
Wide range of cells

Precision

Quality control

Our Brand





CASY^{VIVO} Cell Counter and Analyzer

This is the future for counting of different cells and sizes

- ▶ Accurate and reproducible
- ▶ Simple and fast
- ▶ Cell number and volume
- ▶ Aggregates to small bacteria

Stem cells or cell lines, primary cells or PBMCs, even yeast or bacteria are counted in seconds. Each time an accurate and reproducible result will be gained that includes cell concentration, -volume, -viability or -aggregation. Whether you have precious samples or like to reduce human interaction like for sample preparation, CASY^{VIVO} Cell Counter and Analyzer offers the solution.

CASY^{VIVO}'s advanced technology is a combination of Electrical Sensing Zone improved by Pulse Field Analysis. This unique combination enables precise detection of each cell volume analyzed, independently of the cell form or shape. As a result, CASY^{VIVO} provides accurate cell number as well as the cell volume. These outstanding capabilities make CASY^{VIVO} extremely valuable when working with challenging samples like induced Pluripotent Stem Cells (iPSCs).

CASY^{VIVO} Cell Counter and Analyzer – always the best choice, whatever you want to analyze. From large stem cell aggregates to small yeast or even bacteria. It is the perfect tool for a wide range of applications.

- Cell culture monitoring
- Cancer Research
- Microbiology research
- Stem cell research
- Immunology
- Toxicology studies

Helen Sanders
Lead Research Assistant
COVID-19 Vaccine Trials, Jenner Institute



Improved quality by counting and analyzing with the CASY^{VIVO} Cell Counter and Analyzer.

Finally, CASY^{VIVO} uses its unique Electronic Current Exclusion (ECE) to distinguish between viable and dead cells, providing precise viability information. This information perfectly matches results you may generate using a Flow Cytometer but without the need to stain.



"The CASY counter has been a key piece of equipment for the Oxford COVID-19 vaccine trial. We needed a reliable way to count cells from hundreds of blood samples on a daily basis. The CASY counter is a fast and accurate way of counting PBMCs. It is easy to use as it requires no sample preparation or staining, just add your sample to the CASYton buffer solution and it is ready to go! It is the gold standard of cell counting and we felt confident using it in our clinical trial due to its high reproducibility and accuracy."

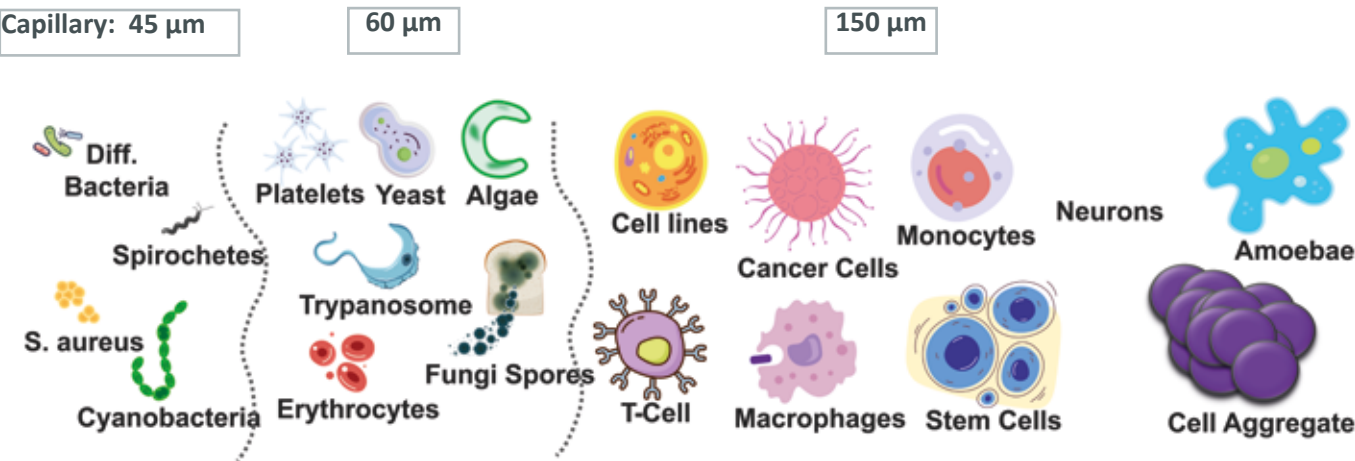


- ! Find the perfect stem cell growth medium and a cell viability enhancer for improved survival and growth on page 22.

High flexibility to ensure precise cell counts and analysis

Flexible Capillary Option

Three capillary options (45, 60, and 150 µm) allow measurement across a wide range of cell sizes. Easily personalize the instrument to your needs by using only one capillary or combining up to three.



Capillary sizes and their applications using CASY^{VIVO} Cell Counter and Analyzer. Whether you work with small bacteria or large aggregates you will receive precise cell counts.

- **Know your PMBCs:** Measure PBMCs using CASY^{VIVO} Cell Counter and Analyzer to receive the total cell concentration, lymphocyte and monocyte counts and cell type percentages.
- **Track T-cell activation:** Using CASY^{VIVO} Cell Counter to monitor T Cell cultures in immunotherapy. It provides exact cell counts and tracks cell volume changes that are linked to activation.
- **iPSC Control:** CASY^{VIVO} counts iPSCs accurately, even in clusters, measuring cell aggregation by Mean Size and Mean Volume.
- **Primary Cells:** CASY^{VIVO} handles debris and dead cells in primary samples, making counts easy, accurate, and reproducible.

Order information

CASY ^{VIVO} one capillary*	5661700-150 (incl. 150µm cap) 5661701-60 (incl. 60 µm cap) 5661702-45 (incl. 45µm cap)
	5661681 CASY ^{VIVO} Special Edition
Capillaries incl. calibration	8501033- 150µm capillary 8501032- 60µm capillary 8501031- 45µm capillary
Accessories	CASYcups (1800 pc)- 5651794 CASYton (10 L)- 5651808 CASYblue (30 ml)- 5651761 CASYclean (500 ml) - 5651787

*without laptop

Cell Culture

Incubator and bioreactors

Media, sera, growth factors

Electroporation system



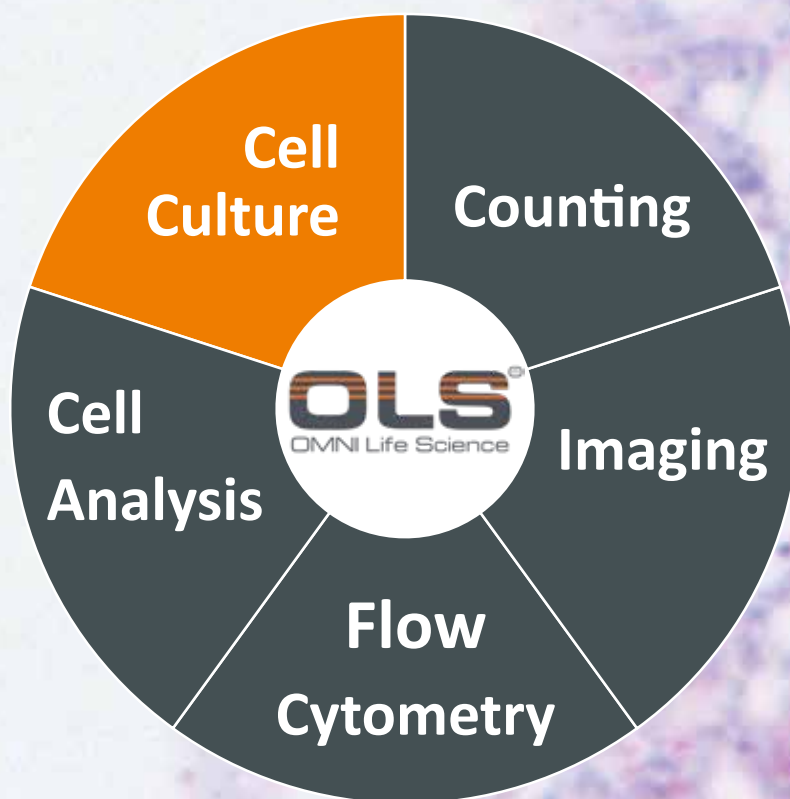
Our Brands

TECNIC

NanoEntek

proteintech

HIMEDIA
FOR LIFE IS PRECIOUS



CERO 3D Incubator and Bioreactor

Empowering advanced 3D cell culture and tissue engineering

- ▶ Intuitive
- ▶ Standardized
- ▶ Flexible
- ▶ Modular

The CERO 3D Incubator & Bioreactor is a new, revolutionary instrument creating an optimal cell culture environment. It offers a special 3D cell culture technology that monitors and controls temperature, pH and carbon dioxide levels. Indeed, this is an ever-evolving state-of-the-art, dynamic culture system that accelerates your processes, reduces costs and hands-on time and allows multiplexing. It provides optimal nutrition, gas diffusion thus increasing size and lifespan of your cultures.



CERO 3D Incubator and Bioreactor ensures up to 100.000 organoids in one CEROtube under optimal cell culture conditions.

Stem Cell Applications

The CERO 3D Incubator and Bioreactor allows for:

- **Scalable expansion:** achieve high cell density and viability for various stem cell types, accelerating production for therapeutic uses and research.
- **Efficient differentiation:** supports directed differentiation into diverse cell types (cardiomyocytes, neural cells, hepatocytes, macrophages, microglia, etc.), aiding cell therapy development.

Benefits:

- High cell density and viability
- Scalable production for clinical applications
- Cost-effective manufacturing of stem cells



CERO 3D enables the scalable expansion and differentiation of stem cells, and the cultivation of diverse cell models e.g. heart, kidney, liver.



Scan the QR code to see the success stories of the CERO 3D Incubator & Bioreactor

Where precision meets innovation

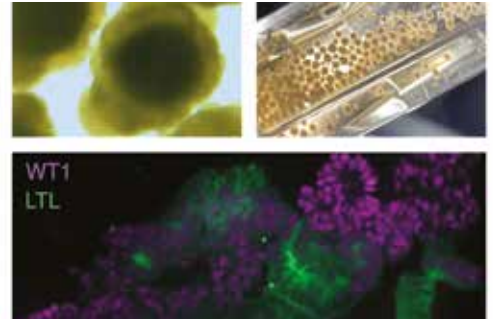
Efficient Generation of Organoids to Boost your 3D Cell Models

CERO 3D provides an ideal environment for the cultivation and expansion of organoids derived from iPSCs, adult stem cells or cancer tissue, enabling researchers to create complex 3D models of various tissues and organs, such as

- Gastric organoids
- Intestinal organoids
- Kidney organoids

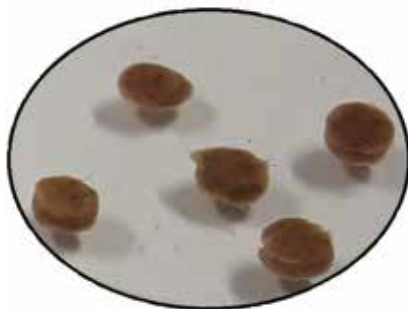
Dr. Raquel Mejias-Luque
TUM, Germany

*“The generation of gastric organoids is a crucial step in the study of *Helicobacter pylori* infection and gastric carcinogenesis. The CERO 3D Incubator & Bioreactor allows the generation in a much more efficient, reproducible, physiological and cost-efficient way compared to any other approach”*



iPSC-derived kidney organoids thriving in the CERO 3D bioreactor.

Courtesy: Prof. Schermer (Nephrolab Cologne, Kidney Research Center Cologne, KRCC), Germany



*Brighfield image of human liver punch biopsies
Courtesy: Prof. Andreas Nüssler, University Tübingen,
Siegfried Weller Institute at the BG Trauma Center, Tübingen.*

Long-Term Cultivation of Tissue Biopsies

CERO 3D provides a unique platform for the extended cultivation of biopsies, preserving their structural and functional integrity for weeks. This enables researchers to conduct in-depth studies on drug metabolism, disease modeling, and the development of novel therapeutic strategies.

Benefits:

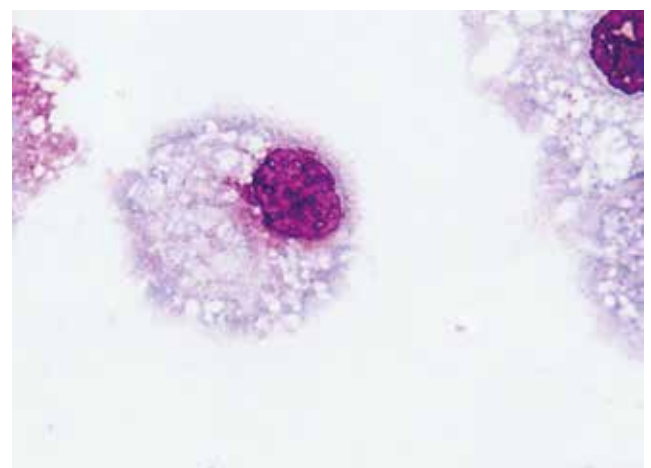
- Extended culture viability
- Minimized cell death
- More physiologically relevant studies

Scalable Macrophage Production for Immunotherapy

The CERO 3D allows for continuous production of functional macrophages, including CAR macrophages at a large scale. These cells play a crucial role in immunotherapy and can be used to fight cancer and other diseases.

anti-CD19 CAR-iMacs (CAR) (scale bar 20 µm).

Reference: M. Abdin et. al. (2023) Scalable generation of functional human iPSC-derived CAR-macrophages that efficiently eradicate CD19-positive leukemia, J Immunother Cancer. 2023; 11(12): e007705



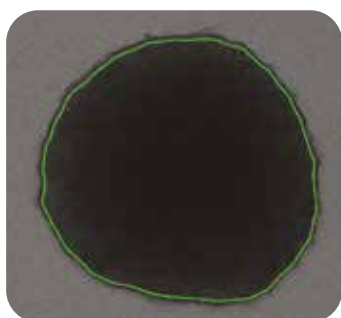
CEROplates, Ultra-Low Attachment

Simple process for 3D aggregates

- ▶ Uniform spheroids
- ▶ Organoid formation
- ▶ 6, 24, 96 or 384-well plates

Designed to address the challenges of spheroid culture, CEROplate ultra-low attachment, offers unmatched performance and reliability, setting a new standard in three-dimensional cell culture.

The ultra-low attachment CEROplates, simplify the process for growing 3D aggregates. It features clear wells with U-bottom or flat-bottom to make sample monitoring simple. The unique well geometry of the microplate aids in the formation of an unattached, round-shaped, single spheroid or organoid in the center of each well. This allows to assay and analyze 3D aggregates in the same plate without transfer.



Experience Fast and Reliable Spheroid Formation

CEROplate enables the rapid formation of uniform spheroids, often within just 2 to 24 hours, depending on the cell type.

CEROplate has been successfully tested with a wide range of cell lines, including challenging primary human hepatocytes, ensuring that even the most difficult cells can form spheroids with ease. Our product is sterile, endotoxin-free, and non-cytotoxic, making it a safe and effective choice.



Different plate formats are available as 6, 24, 96 or 384-well plates.

CEROplate*	Unit	Art.No
6-well plate, flat-bottom	24x1 plate	2800113
24-well plate, flat-bottom	24x1 plate	2800112
96-well plate, U-bottom	6x4 plates	2800109
384-well plate, U-bottom	6x4 plates	2800111

*CEROplates are compatible with existing readers, imaging systems, liquid handling and automated workstations.



ExTransfection Electroporation System

High-performance transfection

- ▶ Superior cell viability
- ▶ Broad compatibility
- ▶ Intuitive control

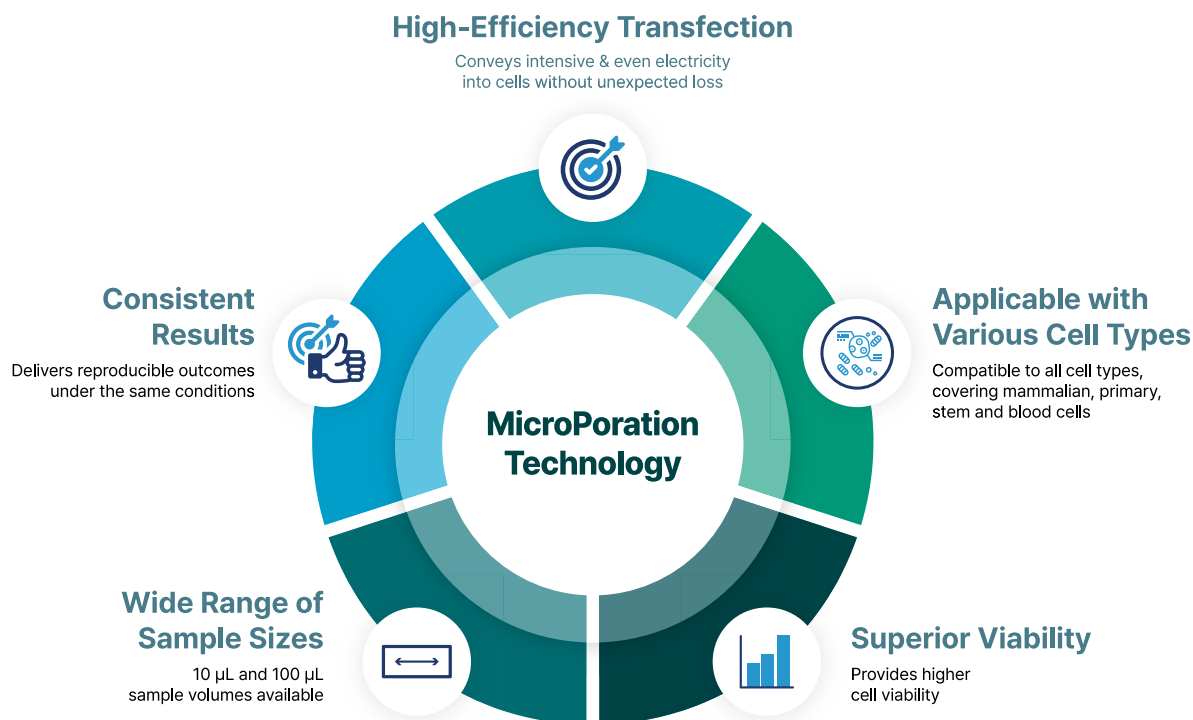
ExTransfection Electroporation System is a benchtop device that uses a single-chamber tip to deliver precise electrical pulses. It uses a capillary-type electric chamber, replacing the conventional cuvette, thus overcoming limitations.

With the precise electrical pulses, it efficiently delivers nucleic acids, plasmids, proteins, and siRNA into all mammalian cell types while maintaining high cell viability.

The transfection efficiency was proven for cell lines, primary, stem and blood cells as well as for CRISPR research.



ExTransfection Electroporation System
making next-level technology accessible.



eLAB Laboratory Bioreactors

Flexible solutions from research to bioprocessing and production

- ▶ High performance
- ▶ Flexible & scalable, from 0.5 to 10 liters
- ▶ Precision monitoring
- ▶ Single-use or multi-use vessels

Meet the Bioreactor Top Performers

eLAB Essential - designed for researchers

The eLAB Essential is a versatile bioreactor optimized for researchers and labs needing efficient use of space and core functionality

Weighing under 5 kg with a 20 cm profile, it supports 0.5–5L vessels and is ideal for smaller labs or simple workflows. Key features include a user-friendly eOS interface, four addition pumps for solution versatility, and compatibility with both single-use and multi-use vessels.



The eLAB Essential bioreactor supports vessels from 0.5 to 5 liters.

eLAB Advanced - designed for bioprocessing labs

The eLAB Advanced is an enhanced bioreactor offering flexibility across both single-use and multi-use vessel options. It features scalable design, precise monitoring, and integration capabilities for more complex workflows and high-performance experimentation.

Its adaptable design supports applications from strict contamination control with single-use vessels to durable multi-use vessels for long-term, repeated use. Built for precision and control, the eLAB Advanced creates optimal environments for cell culture and microbial fermentation, delivering reliable, high-quality results across diverse biotech applications.



The eLAB Advanced bioreactor offers high flexibility across both single-use and multi-use vessel options.



Scale up your success - with scalable range of bioreactor solutions

- ▶ Adaptable and interconnected
- ▶ Optimized production
- ▶ From 50 up to 4000 liters
- ▶ Single-use or multi-use options

ePilot - Pilot Scale Solution up to 50 liters

Build a pilot plant that grows with your needs. Transition from simple processes to advanced setups without compromising process control or quality.

eProd - Production Scale Solutions up to 4000 liters

The production equipment integrates seamlessly with the ePlus systems, creating a streamlined ecosystem for efficient bioprocessing. Use the single-use system eBAG to ensure the safe containment of biopharmaceutical products.



The ePilot offers scale solution ranges up to 50 liters; whereas the eProd bioreactor ensures highest efficiency up to 4000 liters.



eBag - Single-use 2D and 3D Solutions

Single-use supplies for bioreactors and tangential flow filtration ensuring high-quality bioprocessing and pharmaceutical bags that meet strict industry standards for sterility and reliability. eBag solutions include 2D bags for straightforward storage and filtration tasks, and 3D bags for complex mixing and storage.

Unlock the full potential of your bioprocess with tailored solution

We provide a complete range of advanced bioprocessing solutions, tailored to address the unique challenges of microbial and cell culture applications.

From Tangential Flow Filtration (0.5 m² to 65 m²) to our ePlus solutions for media preparation, buffer tanks, and CIP systems, we ensure efficiency and precision at every stage.



Contact us and let our experts support you in finding the perfect fit for your process.

Sera, Media, Supplements, Reagents, Consumables

Empower your cell culture

- ▶ Broad range of media and reagents
- ▶ Customized stocking
- ▶ Easy and constant delivery

Our portfolio offers a broad range of classical media, balanced salt solutions, reagents, sera, plasticware, biochemicals and many more – anything required for cell culture. We meet the evolving needs of biologists by consistently upgrading and increasing our product profile.



Broad range of classical media, sera and supplements.

Cell Culture Plasticware

A complete portfolio of everything required in your workflow

- ▶ Serological pipettes
- ▶ Centrifuge tubes
- ▶ Cryovials
- ▶ Multiwell-plates
- ▶ Culture flasks and dishes
- ▶ HiFactory chambers
- ▶ Roller bottles

Most culture vessels are available with surface-treatment for adherent cells and non-treated for suspension cells.



Research-Grade Fetal Bovine Sera

The alternative for your research

- EU-approved
- Comprehensively tested
- Customized reservations

This serum helps to meet your research needs and budgets requirements, offering the best value for basic cell culture, specialty research and specific assays.

The sera is EU-approved serum suitable for cell culture applications. A wide range of sera including Bovine Serum Albumin, Bovin Serum, Horse Plasma, and Animal Sera (goat, sheep, porcine, mouse, rat and others) are available. Heat-inactivated FBS for immunological applications, is also available.

The product is comprehensively tested for performance and quality assurance. The premium sera feature sterility test by using triple 0.1µm filters.



Fetal Bovine serum to meet all your requirements.

Finally it is tested at the ISO 9001:2015 certified facility holding a certificate of suitability by the European Directorate for the quality of Medicines for production of Fetal Bovine Serum.

Certificate of Analysis can be provided on request.

EU-approved Sera	Description	Volume/ Size	Art.No
Fetal Bovine Sera, South America-Origin*, Research-grade	Fetal bovine serum is approved for import into the European Union by European Commission. The serum is collected and processed in facilities registered and inspected by the competent authority in the country of origin.	500 ml	990802-500ML
Fetal Bovine Sera, South America-Origin*, Research-grade	Fetal bovine serum is approved for import into the European Union by European Commission. The serum is collected and processed in facilities registered and inspected by the competent authority in the country of origin.	100 ml	on request
Fetal Bovine Serum, Albumin US-Origin, Standard-grade	Protease-free, fatty acid-free and many other Grades Lyophilized and Liquid	on request	on request

* also available as US-Origin, New Zealand-Origin or Australia-Origin

Media

Available in liquid and powder form

The entire portfolio includes a broad range of classical, freezing, serum-free, custom, insect or vaccine production media. All media are best fitting for cell biology, molecular biology, microbiology and plant tissue culture. They are available in liquid and powder form to meet environmental needs.



Classical Media	Description	Volume/ Size	Art.No
RPMI-1640	w/1mM Sodium pyruvate 2mM L-Glutamine 4.5gms Glucose per litre 10mM HEPES buffer, .5gms per litre Sodium bicarbonate	500 ml	AL162S-500ML
DMEM-Dulbecco's Modified Eagle Medium	w/ Sodium pyruvate , Sodium bicarbonate w/o Glucose and L-Glutamine	500 ml	AL186-500ML
DMEM/F12	w:L-Glutamine 15mM HEPES 1.2 g/l NaHCO ₃	500 ml	990800
DMEM/F12, Highly Stable	L-Alanyl-L-Glutamine 15mM HEPES 1.2 g/l NaHCO ₃	500 ml	990801
DMEM, low glucose	w/1gm Glucose per litre, L-Glutamine, 25mM HEPES buffer, Sodium pyruvate Sodium bicarbonate	500 ml	AL149A-500ML
DMEM, high glucose	w/ 4.5gms Glucose per litre, 1mM Sodium pyruvate, L-Glutamine, 1.5 gms per litre Sodium bicarbonate	500 ml	AL007S-500M
McCoy's 5A Medium	w/ 1.5mM L-Glutamine and 2.2gms per litre Sodium bicarbonate	500 ml	AL057S-500ML
MEM-Minimum Essential Medium Eagle	w/ Earle's salt, 2mM L-Glutamine, 1mM Sodium pyruvate, NEAA, 1.5 gms per litre Sodium bicarbonate	500 ml	AL047S-500ML
CryoXL Cell Freezing Medium- DMSO, 1X	w/ FBS and DMSO, w/o Antibiotics Sterile filtered , Contains high concentration of FBS; can be used for freezing of sensitive cell lines	50 ml	TCL093-50ML
CryoXL Cell Freezing Medium Glycerol, 1X	w/ FBS and Glycerol w/o Antibiotics, Phenol red Sterile filtered	50 ml	TCL078-50ML



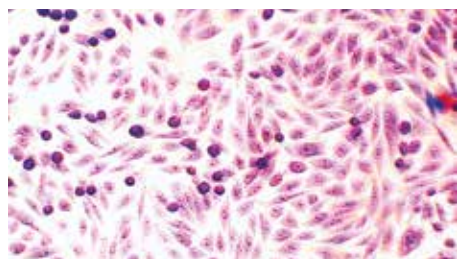
Serum-free Media for Bioproduction and Virus Production

Streamline production with all-in-one media

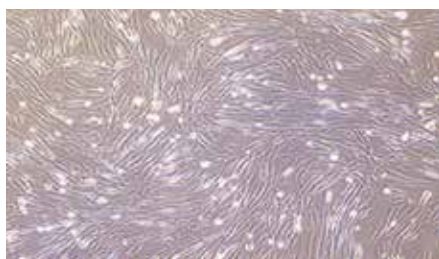
These media are optimized for the growth and expansion of the respective cells under serum-free conditions. They are developed for support of high-density cultures.

All media are manufactured in GMP and ISO9001 certified facility.

Serum-free Media	Description	Volume/ Size	Art.No
CHOin1 Bioproduction Media Liquid	Comprehensive range of clone-specific serum-free, protein-free media, feed supplements and bioproduction service.	1000 ml	SFM007L-1000ml
CHOin1 Bioproduction Media Powder	Comprehensive range of clone-specific serum-free, protein-free media, feed supplements and bioproduction service.	1 L 10 L	SFM007AO-1L SFM007AO-10L
HEKin1 Serum-free Media Powder	HEKin1 is optimized for the growth and expansion of adherent HEK293 cells under serum-free conditions.	10 L	SFM038AP-10L
CELLin1 Virus Production Media Liquid	This advanced all-in-one medium enables the up-scaled cultivation of MDCK, MDBK, PK-15, Vero and MRC-5 cells for increased production of viral vaccines.	1000 ml	SFM036L-1000ml
CELLin1 Virus Production Media Powder	This advanced all-in-one medium enables the up-scaled cultivation of MDCK, MDBK, PK-15, Vero and MRC-5 cells for increased production of viral vaccines.	1 L 10 L	SFM036AP-1L SFM036AP-10L



Optimize the growth of your CHO cells to maximize bioproduction efficiency.



All-encompassing workflow for the cultivation, expansion and cryopreservation of MSCs.



Improved cell density boosts the HEK-based vaccine production for viruses.

Stem Cell Growth Medium

Enhanced survival and growth of stem cells

- ▶ Animal-free, serum-free, weekend-free
- ▶ Maintenance of PSCs
- ▶ Improved survival and growth

HiDef-B8 Stem Cell Supplement (400x)

HiDef-B8 is a serum-free formulation designed for the feeder-free maintenance and expansion of human pluripotent stem cells (PSCs) in an undifferentiated state. The unique formulation offers a flexible feeding schedule (including weekend-free maintenance) and the ability to choose the matrices and passaging methods that best suit specific applications.

Complete Maintenance Medium

For a complete, pluripotent stem cell (PSC) Maintenance Medium, simply add HiDef-B8 Supplement to DMEM/F12 Basal Medium, Highly Stable (Art.No. 990801). The complete medium is now ready to use for cultivating your PSCs.



Ready-CEPT Cell Viability Enhancer (1000x)

Ready-CEPT Cell Viability Enhancer is a defined formulation designed for improved stem cell survival and growth during routine passaging, cryopreservation, and freeze-thaw recovery.

Ready-CEPT is a single-vial cocktail of chroman-1 (a ROCK inhibitor), emricasan (a pan-caspase inhibitor), polyamines (putrescine, spermine, and spermidine; polycations for cell growth support), and trans-ISRIB (an ISR inhibitor). It is provided in a DMSO/water mixture using animal origin-free componentry.

HiDef-B8 Stem Cell Growth Medium



Weekend Free



Fully Defined



Convenient Use

Ready-CEPT Cell Viability Enhancer



Better
Cell Health



Cryoprotective



Convenient Use



Stem Cell Growth	Volume	Art.No
Stem Cell Maintenance Kit* HiDef-B8 400X Supplement and DMEM/F12, Highly Stable	1x 500 ml + 1x 1.25 ml 6x 500 ml + 6x 1.25 ml	990803 990803-6
DMEM/F12, Highly Stable	1x 500 ml 6x 500 ml	990801 990801-6
HiDef-B8 400X Supplement	1.25 ml 6x 1.25 ml	LSS-204-1 LSS-204-6
HiDef-S8 400X Supplement**	mini (10-pack)	LSS-610-10M
Ready-CEPT Cell Viability Enhancer	200 µL 12x 200 µL 12x 10 µL	LSS-301-200-1 LSS-301-200-12 LSS-301-10-12
HiDef N-2 Neural Supplement, 100X	5 ml 10x 5 ml	LSS-501-1 LSS-501-10
Neural Cell Culture and Growth Kit HiDef-N2 100X Neural Supplement and DMEM/F12, Highly Stable	1x 500 ml + 1x 5 ml 10x 500 ml + 10x 5 ml	99084 990804-10

* The Stem Cell Maintenance Kit includes DMEM/F12, Highly Stable and HiDef-B8 400x Supplement. Just add 1.25 mL (1 vial) HiDef-B8 400X Supplement to 500 ml of DMEM/F12, Highly Stable.

** HiDef S8 is a chemically defined, animal-free medium for the high-density expansion and maintenance of human induced pluripotent stem cells (iPSC) in suspension. It is designed to support 3D cell culture in bioreactors without needing microcarriers. After five days, a 60-fold expansion of iPSC can be achieved.

STEMin1 System for Human Mesenchymal Stem Cells (MSC)

Superior cell expansion capacity and faster growth

Serum-free, xeno-free system for human MSCs	Description	Volume	Art.No
STEMin1 Medium	Maintains MSCs in their spindle-shaped, fibroblast-like morphology	500 ml	AL520-500ML
STEMin1 Attachment Solution	Xeno-free culture of stem cells	10 ml	TCL206-10ML
STEMin1 Dissociation Solution	Xeno-free culture of stem cells	100 ml	TCL208-100ML
STEMin1 Neutralizer	Xeno-free culture of stem cells	100 ml	AL520-500ML
FREEZin1 Cryopreservation	w/ DMSO; w/o Antibiotics, Antimycotics and Phenol red, Sterile filtered	50 ml	TCL098-50ML

Reagents and Supplements

A comprehensive overview of essential needs in a laboratory

- ▶ Dissociation reagents
- ▶ Balanced salts
- ▶ Antibiotics
- ▶ Cryoprotectants



Animal-origin Dissociation Reagents	Description	Volume/Size	Art.No
Accutase	Cell detachment solution, ready-to-use	100 ml 500 ml	P10-21100 P10-21500
Trypsin	Trypsin 2.5% Solution 10X	500 ml	TCL008-500ml

Animal-origin-free Dissociation Reagents	Description	Volume/Size	Art.No
EnVzyme Easy	Alternative to trypsin for dissociation of easy-to-dissociate adherent cells	500 ml	TCL137-500ml
EnVzyme Super	Alternative to trypsin for dissociation of hard-to-dissociate adherent cells.	500 ml	TCL153-500ml
RecombIN	Sterile solution to dissociate adherent cell lines	500 ml	TCL162-500ml
ZymeFree	Works as quick as trypsin on most cell lines. It holds the advantage over enzyme-based dissociation solutions as it does not cause cytotoxicity, even after cells are exposed to it for prolonged period.	500 ml	TCL028-500ml
HiDef PBS/EDTA Cell Dissociation Reagent	Defined for protein-free adherent cell dissociation, for routine aggregate passaging or single cell suspension.	125 ml 10x 125 ml	LSR-410-125-1 LSS-410-125-10



Scan to find more media, sera or plastics as the ultra-low attachment plates in our webshop.

Balanced Salt Solutions	Description	Volume Size	Art.No
Phosphate Buffered Saline	10X Phosphate Buffered Saline, pH 7.2	500 ml	TL1032-500ml
Dulbecco's Phosphate Buffered Saline	10X Dulbecco's Phosphate Buffered Saline	500 ml	TL1022-500ml
Earle's Balanced Salt Solution	1X Earle's balanced salt solution with phenol red and sodium bicarbonate	500 ml	TL1002-500ml
Hanks' balanced salt solution	10X Hanks' Balanced Salt Solution w/ Phenol red w/o Calcium chloride, Magnesium sulfate and Sodium bicarbonate	500 ml	TL1122-500ml

Antibiotics	Concentration for cell culture	Volume/ Size	Art.No
Streptomycin sulphate	100mg/L	25 g	TC035-25g
Ampicillin sodium salt	100mg/L	25 g	TC021-25g
Gentamicin Sulphate	50mg/L	25 g	TC026-25g
Kanamycin Sulphate	100mg/L	25 g	TC136-25g

Cryoprotectants	Description	Volume/ Size	Art.No
DMSO	Cell Culture Tested Dimethyl sulphoxide	250 ml	TC185-250ml
Glycerol	Cell Culture Tested 1,2,3-Propanetriol	500 ml	TC503-500ml

Detergents	Description	Volume/ Size	Art.No
SDS	Cell Culture Tested Dodecyl sulphate sodium salt	250 g	TC698-250g
Triton X-100	Cell Culture Tested Triton X-100	500 ml	TC286-500ml
Tween-20	Cell Culture Tested Tween-20	100 ml	TC287-100ml

Enzymes	Description	Volume/ Size	Art.No
Luciferase	Cell Culture Tested Luciferase	25 mg	TC493-25mg
Pepsin	Cell Culture Tested Pepsin	5 g	TC686-5g
Proteinase K	Cell Culture Tested Proteinase K	10 mg	TC687-10mg

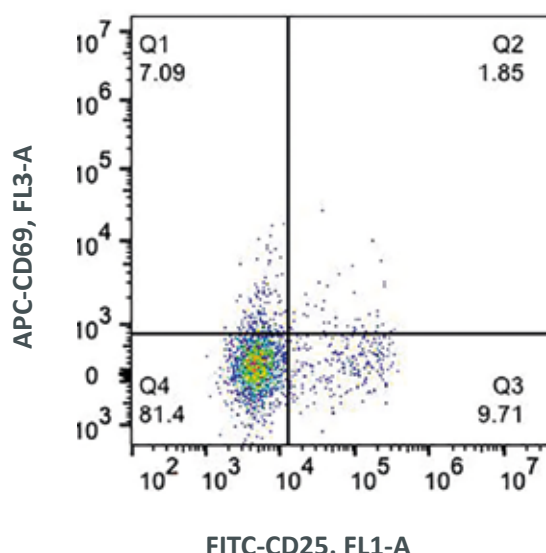
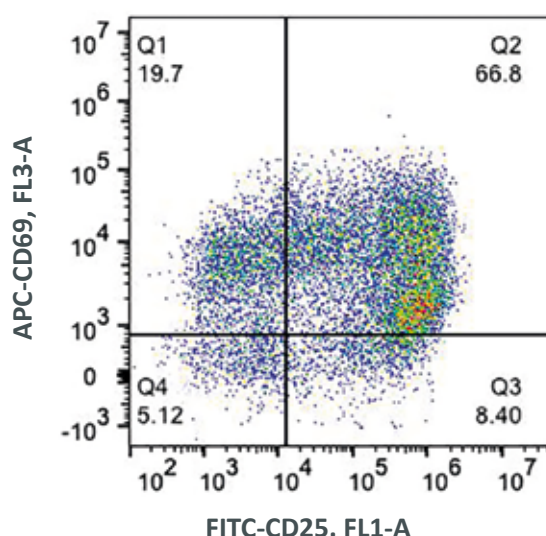
Cell Culture Supplement	Description	Volume/ Size	Art.No
HiDef ITS Cell Culture Supplement	For the routine maintenance and low-density attachment of adherent cells under reduced serum conditions	10 ml 10x 10ml	LSS-401-1 LSS-401-10
Glycerol	Cell Culture Tested 1,2,3-Propanetriol	500 ml	TC503-500ml

Human CD3/CD28 T Cell Activation Beads Kit

Gentle and effective T-cell activation in vitro

- ▶ Highest activity compared to other methods
- ▶ Magnetic beads are easy to remove after activation
- ▶ Simple protocol – no lengthy preparation involved

This kit contains biotinylated anti-human CD3 and CD28 antibodies, as well as cell culture grade Streptavidin magnetic beads. After Streptavidin magnetic beads are loaded with biotinylated CD3/CD28, they mimic antigen presenting cells and can activate resting T lymphocytes from human PBMCs or purified T lymphocytes. After 2-3 days of activation, magnetic beads can easily be removed by magnet. Further T lymphocytes expansion will require human cytokines for in vitro culture.



2.5×10^6 human PBMCs in 0.5mL cell culture media are activated by Human CD3/CD28 T Cell Activation Beads Kit for 3 days at a 1:1 bead to cell ratio. Unstimulated cells (lower panel) and stimulated cells (upper panel) are stained with fluorescence flow antibodies APC-CD69 and FITC-CD25. Total viable lymphocytes are gated. The activation effect of the Human CD3/CD28 T Cell Activation Beads Kit was tested on human PBMCs from three different donors.

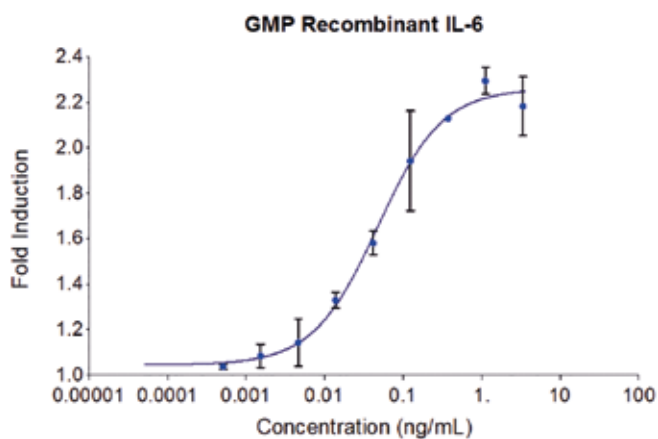


HumanKine Research Grade Cytokines and Growth Factors

Pure, potent and stable cells

- ▶ Animal component free, endotoxin free, xenoFree
- ▶ High batch to batch consistency
- ▶ Authentic human proteins
- ▶ cGMP grade available

HumanKine® cytokines and growth factors are authentic human proteins, expressed in HEK293 cells, owning native human conformation & post-translational modifications to optimize biological activity. HumanKine® recombinant proteins offer high bioactivity, stability and lot-to-lot consistency and are used for cell culture, cell media, wound healing, and cell therapy research. They are endotoxin-free, Xeno-free, Tag-free and Carrier-free. HumanKine® cGMP (current Good Manufacturing Practice) recombinant proteins are manufactured and validated in accordance with ISO 13485 quality management system and are compliant with cGMP.



GMP Recombinant human IL-6 (HZ-1019-GMP) stimulates dose-dependent proliferation of the 3G12B10 hybridoma cell line. Cell number was quantitatively assessed by PrestoBlue® Cell Viability Reagent. 3G12B10 cells were treated with increasing concentrations of GMP recombinant IL-6 for 96 hours. The EC50 was determined using a 4-parameter non-linear regression model. Activity determination was conducted in triplicate on a validated bioassay. The EC50 range is 0.03-0.24 ng/mL.

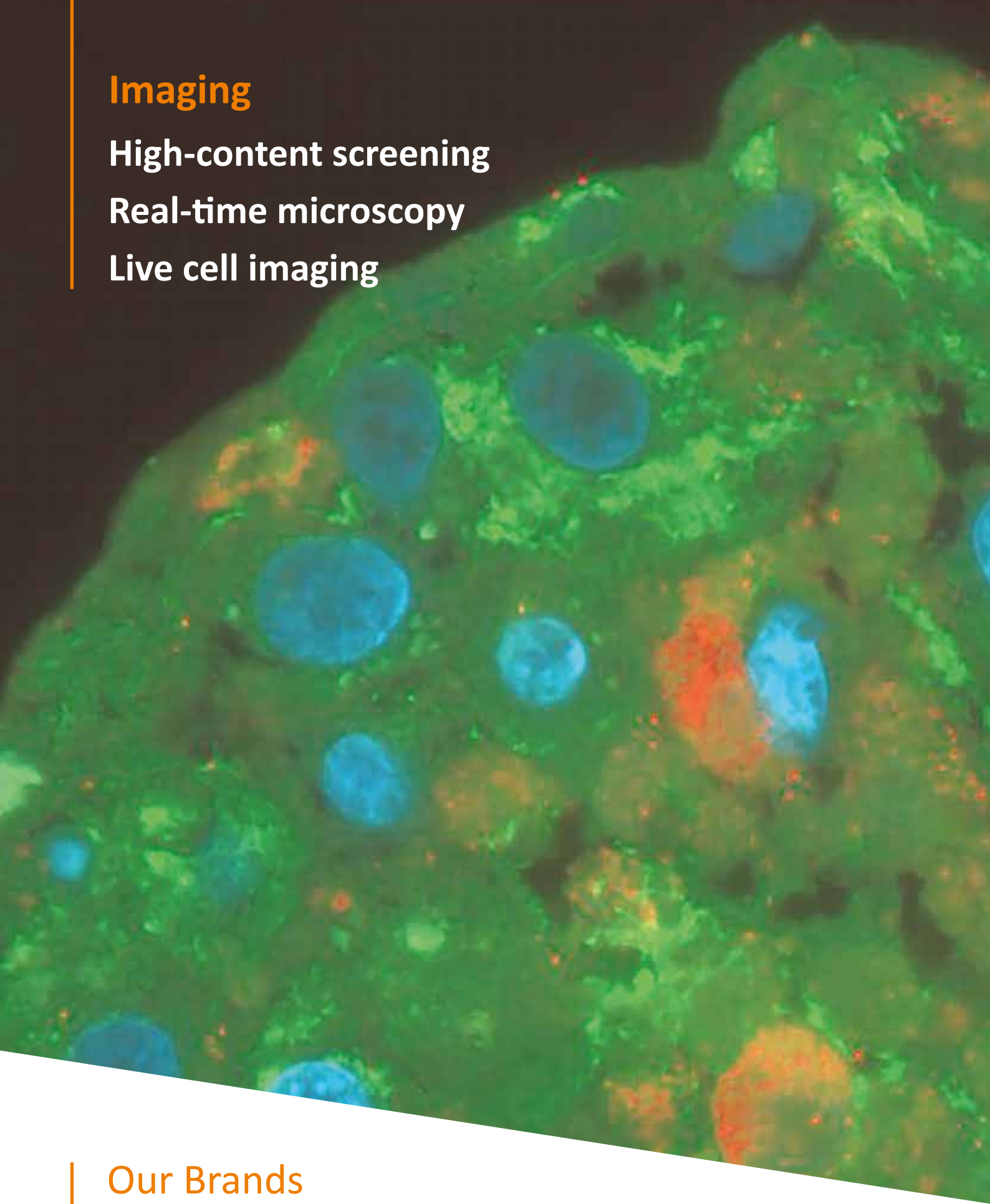


Imaging

High-content screening

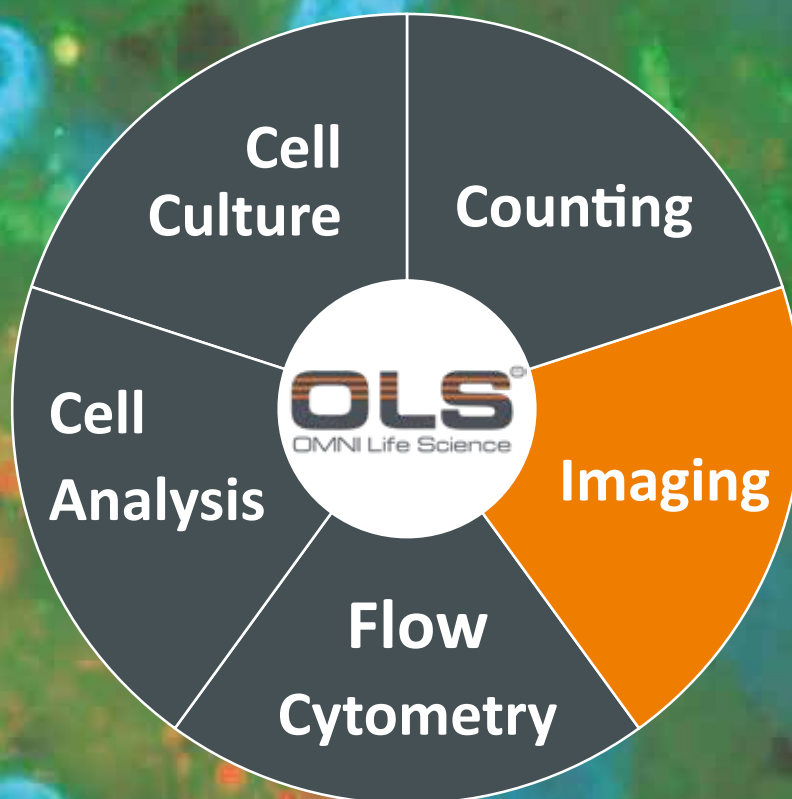
Real-time microscopy

Live cell imaging



Our Brands





WiScan Hermes High-Content Imaging System

Revolutionizing automated imaging with speed and precision

- ▶ High-throughput
- ▶ High resolution images
- ▶ Unmatched speed
- ▶ Automated and versatile

The WiScan Hermes High-Content Imaging System delivers publication-quality images at high-throughput speed, perfect for cell biology and drug discovery. With push-button ease, it offers fluorescence, bright field, laser-based autofocus, and various objectives.

The system is ideal for a large variety of applications, including phenotypic screening, zebrafish models, spheroids and 3D models, rare-event detection, cytometry, cell counting, protein expression, cell morphology, and more.

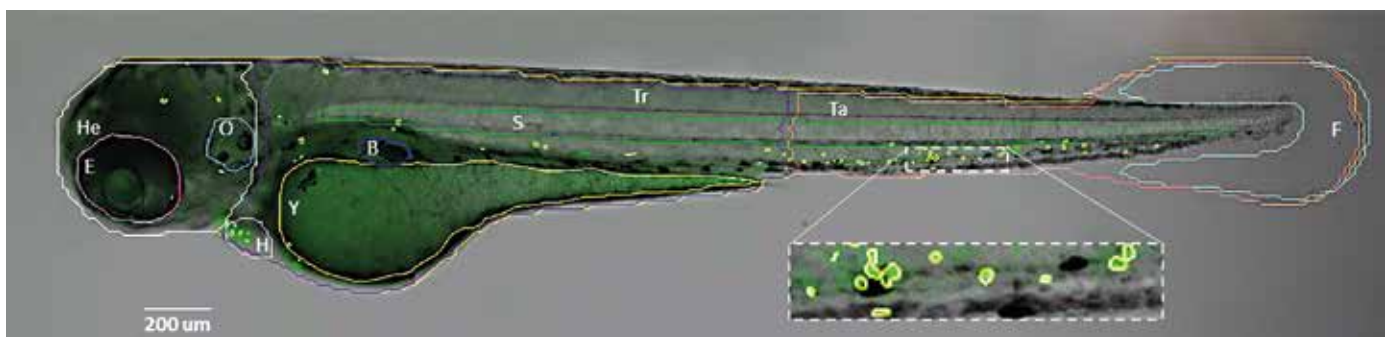


WiScan Hermes System easily generates publication-quality images.

The Future of Zebrafish Screening

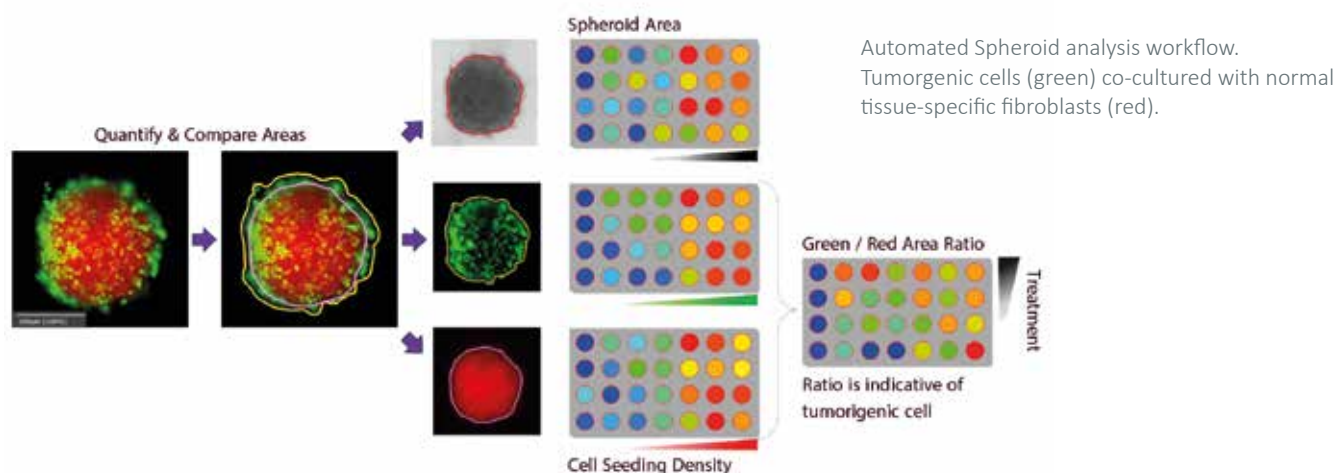
Designed for speed, flexibility, and ease-of-use, Hermes features AI-powered capabilities, allowing researchers to push the boundaries of high-content screening with zebrafish models. It streamlines the quantification of fluorescence, morphological changes, and phenotypic features in Zebrafish larvae.

- **Simple & Efficient:** Works with basic bright-field images, offering parameter-free analysis.
- **Broad Compatibility:** Supports multiple image formats from all major microscope brands.
- **Automated Detection:** Identifies embryos and larvae (up to 5 days old) and extracts key anatomical features: yolk sac, eye, notocord, and body regions.
- **Fluorescence & Morphology:** Measures shape, size, and fluorescence intensity across various anatomical structures.



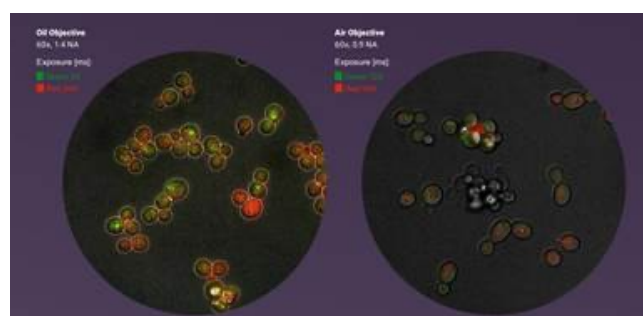
Spheroids and 3D imaging

- Capture sharp, focused images of spheroids
- Spot spheroids with rapid scanning for localization
- Monitor spheroid growth across the entire plate using plate view
- Perform live/dead assays to assess the viability of 3D tumour spheroids
- Visualize spheroid morphology at various depths using flexible multi-plane definitions



Fast, automated imaging with oil objectives - shorter exposure, brighter image, higher resolution

- Super-Resolution Radial Fluctuations (SRRF) for live-cell imaging
- Fluorescence In-Situ Hybridization (FISH)
- Imaging of Mitochondria, Endoplasmic Reticulum, Cytoskeleton, & Focal Adhesions
- Innovative hardware automatically applies immersion oil to objectives
- Time-lapse imaging of live cells
- Optimized autofocus and X, Y, Z motion with long-lasting oil capsules for low-maintenance use



Brightfield and fluorescence overlay, Oil Objective (60x, 1.4NA), Exposure (ms): Green 50, Red 200, Air Objective (60x, 0.9NA), Exposure (ms): Green 120, Red 500, Green/Red same contrast levels; acquisition: Same illumination & camera gain.

Detection of Rare Events in Live Cells

- Precise tracking of rare events in living cells
- Full plate scan at low magnifications (2X-10X) to identify objects of interest
- Auto-zoom to capture high-resolution images (20X-60X) of selected events
- Achieve superior statistical precision with quantitative, real-time analysis within each well, surpassing standard end-point imaging studies

Technical Data: Hermes Wiscan Imaging System

Imaging modes	7 fluorescence channels, brightfield, phase contrast
Objective Lenses	Supports air, oil and water objectives Ranging from 2x to 100x
Sample formats	6-1536 well plates, slides, microarrays, dish formats and other labware
Stage	Motorized XYZ stage
Camera	High-resolution CMOS camera, 5.1M Pixel

zenCELL owl Incubator Microscope

Live cell imaging to boost cell quality and research

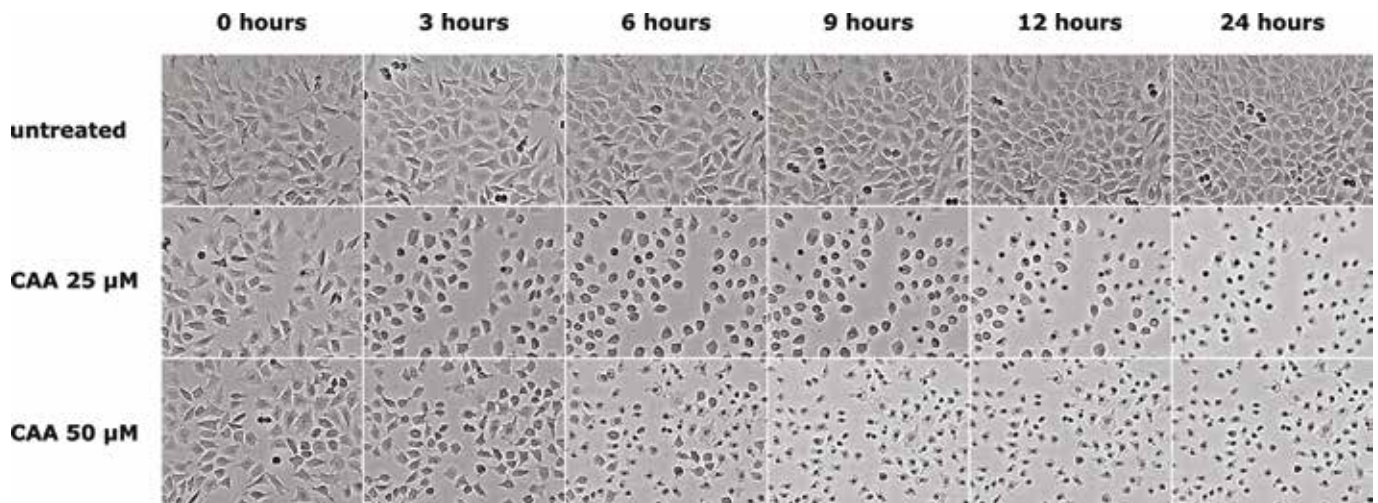
- ▶ Non-invasive
- ▶ Automated
- ▶ Remote monitoring
- ▶ 24/7 data

The zenCELL owl is your 24 channels microscope for the incubator with automated remote monitoring of cell cultures. The compact and lightweight device ensures space-saving and uncomplicated use in the incubator. Data capturing, display and analysis is performed 24/7 in real time, while the cells stay in the incubator. Cell cultures can be comfortably monitored from your PC. The zenCELL owl is perfectly suited for routine and basic applications to save working time and create a greater amount of information about your cell cultures.



Simultaneous analysis of 24 cell cultures enables users to examine different test conditions at the same time and to compare them directly. This allows for a statistical evaluation of research data.

Real-time and long-term monitoring of drug effects to follow loss of morphology and cell death



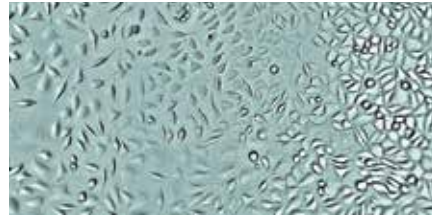
Chloroacetaldehyde (CAA) treatment results in a dose-dependent growth inhibition, loss of cell morphology and cell death. Digital phase-contrast imaging of L929 cells. Scalebar: 200 μm.



Applications supported by the zenCELL owl

Cell culture monitoring - Ensure consistent quality

Analyze dynamic changes and developments of your cell culture in detail. Follow any change in cell morphology by zooming down to single cell level and visualizing a cell while it's dividing, moving or dying.



Record up to 24 wells of a 24-well plate in parallel, automatically and in long-term.

Scratch Assay - Visualize process of gap closure

The wound healing, migration assay or scratch assay is a standard method to analyze cell migration in vitro. The dynamics of cell migration into a cell-free area, which has been created by direct manipulation or physical exclusion, are monitored and quantified to analyze cell migration characteristics and to calculate the gap closure time.

The simultaneous analysis of cell morphology and confluence in up to 24 wells under identical conditions optimizes the comparability of your results and reproducibility of data.



A migration assay of L929 fibroblasts was performed over a time period of 24 hours. The gap was inserted in a confluent monolayer by a pipet tip (0 hours). 1 hour after inserting the gap cells on the edge start to migrate. Within a time-period of 24 hours the cell migration results in a continuous closure of the gap.

Time lapse Imaging of Spheroids - Fast and automated

The zenCELL owl allows analyzing the proliferation, growth and shape of spheroids in non-adhesive wells by automated time lapse microscopy. It's seen as a function of initial cell number, cell type, or spheroid age over days. Different parameters such as the projected area of the spheroid, its width, height and roundness and how these parameters evolve with time can be assessed.

Cytotoxicity Assay - Monitor drug effects

Visualize the cytotoxic effect of different agents on up to 24 cell cultures simultaneously and in long-term. Observe changes in morphology and confluence online from outside the lab.

Compare different drugs or different drug concentrations under identical environment conditions in an automated non-invasive way.

JuLi Stage Live Cell Imaging System

See the whole story - don't miss a moment of your cells

- ▶ Compatible with standard incubators
- ▶ Fully automated X-Y-Z stage
- ▶ Multi-channel fluorescence imaging

JuLi Stage is a fully-automated, time-saving real-time cell imaging system that directly acquires cell images from numerous cell culture plates (6 up to 384 wells) and dishes in an incubator. It supports the multi-channel fluorescent colors (GFP, RFP, DAPI) and multiple objective lens (4X, 10X and 20X). The sensitive filter-based optics are optimized for live cell assays. It also enables users to obtain the quantified cell confluence results with low variation and the growth curve using image-based analysis with a bright field.

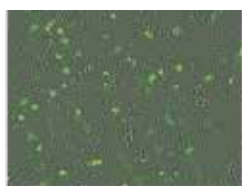


JuLi Stage Real-time live cell imaging system saves you a lot of time and hard work and helps for real-time monitoring and the optimal time point.

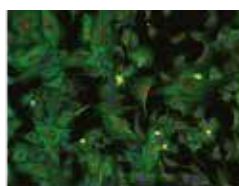
Applications and experiments



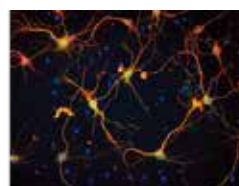
Spheroids



Apoptosis



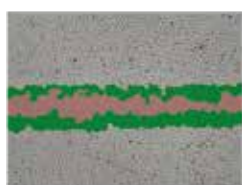
Cellular localization



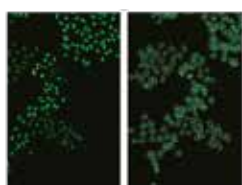
Neurite growth



Cytotoxicity



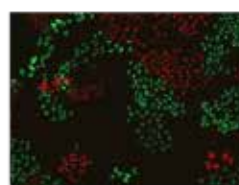
Scratch assay



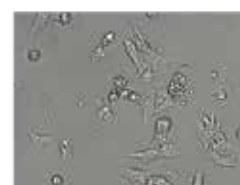
Fluorescent cell counting



Proliferation



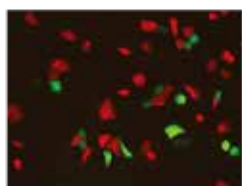
Transfection efficiency



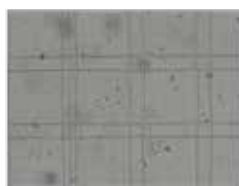
iPS cell line



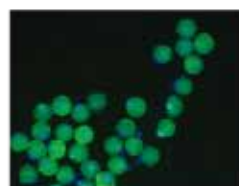
Embryonic morphology



Reporter gene



Chemotaxis



Oocyte monitoring



**Tissue observation
(auto-stitched images)**

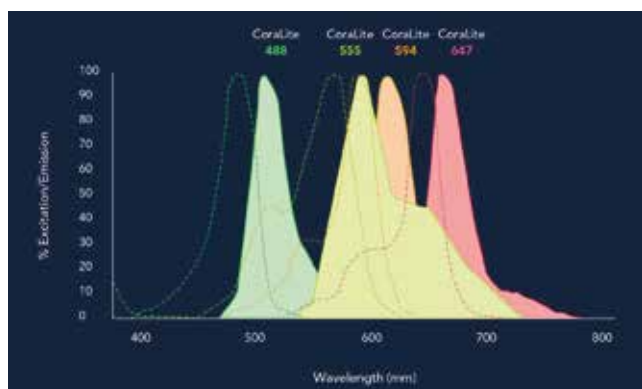


CoraLite Plus Fluorescent Dye Conjugated Antibodies

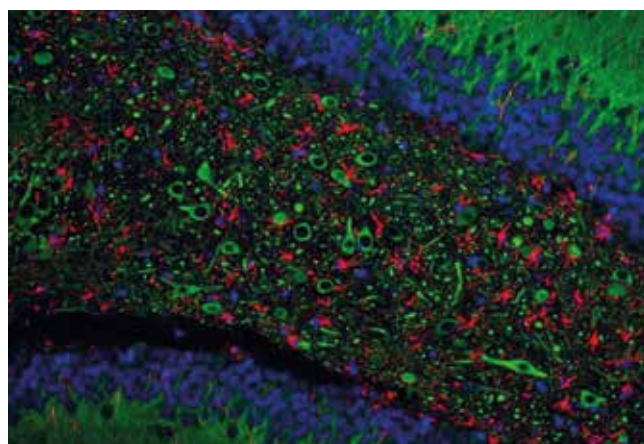
The perfect tools for multiplex co-labeling of proteins

- ▶ Simplified co-labeling
- ▶ Exceptionally bright and photostable
- ▶ Faster protocol than using unconjugated primary antibodies

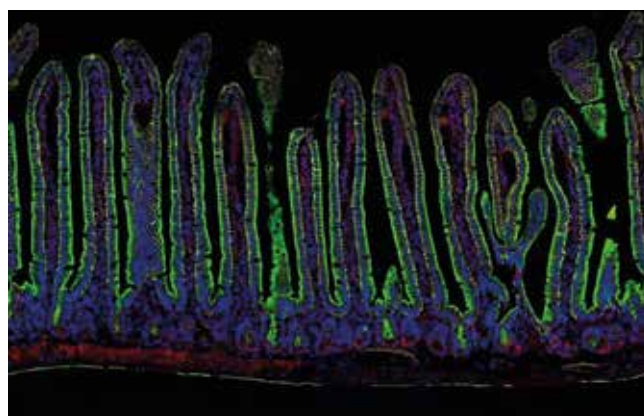
Popular monoclonal and polyclonal antibodies are now available directly conjugated with fluorescent dyes: CoraLite488, CoraLite555, CoraLite594, CoraLite647 and more. Thus an even enlarged spectrum of dyes is offered for perfect immunofluorescence.



2.5×10^6 human PBMCs in 0.5mL cell culture media are activated by Human CD3/CD28 T Cell Activation Beads Kit for 3 days at a 1:1 bead to cell ratio. Unstimulated cells (left panel) and stimulated cells (right panel) are stained with fluorescence flow antibodies APC-CD69 and FITC-CD25. Total viable lymphocytes are gated. The activation effect of the Human CD3/CD28 T Cell Activation Beads Kit was tested on human PBMCs from three different donors.



Immunofluorescent analysis of (4% PFA) fixed rat brain tissue using CoraLite®488 MAP2 antibody (CL488-17490) at dilution of 1:200, CoraLite®594 GFAP antibody (CL594-16825, red). DAPI (blue).



Adult mouse small intestine stained for Cytokeratin 19 (green, CL488-10712) and BMI1 (red, 10832-1-AP). BMI1 stains intestinal stem cells located at the base of the villi. As these stem cells differentiate into intestinal epithelial cells, they acquire Cytokeratin 19 expression. Cytokeratin 19 was conjugated to CoraLite 488. Samples were fixed in 4% PFA, embedded in paraffin, and imaged on a confocal microscope. Image credit: @Immunofluorescence on Instagram.

Flow Cytometry

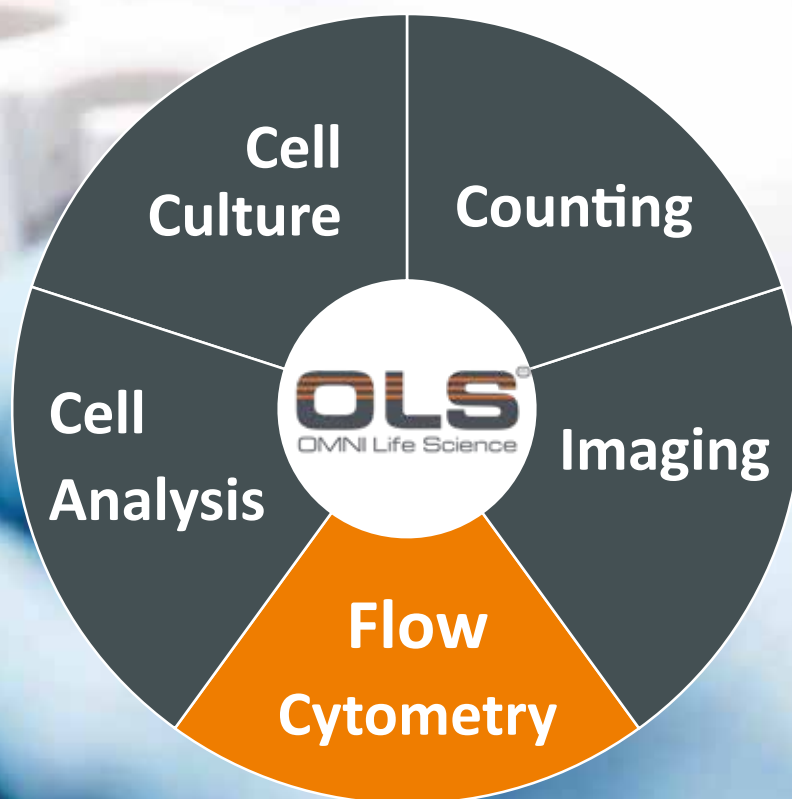
Flow cytometer

Spectral flow cytometer

Antibodies

Our Brands





NovoCyte Flow Cytometer

Meeting your demand of modern multicolor flow cytometry

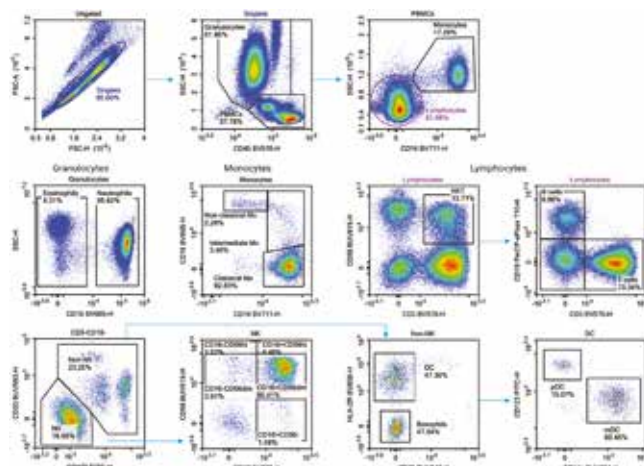
- ▶ Expanded flexibility
- ▶ High sensitivity and resolution
- ▶ Automation-ready
- ▶ Intuitive software

NovoCyte flow cytometers offer expanded flexibility with up to 30 fluorescence channel options using 5 lasers, enabling more detailed analyses of cell populations and leading to a better understanding of cellular behavior and function. The NovoExpress software provides an exceptional user experience in data acquisition, analysis, and reporting, with a wide 7-log dynamic range that eliminates the need for routine detector adjustments. The unique NovoCyte fluidic system delivers precise cell counts without the use of counting beads and accurately adapts the flow rate to the particles of interest. The NovoSampler Q seamlessly integrates into various lab automation platforms, efficiently processing FACS tubes (using a 40-tube rack) and various plate formats (24-, 48-, 96-, and 384-well plates).

Covering a broad range of applications from microvesicle analysis to complex multicolor immunophenotyping experiments, NovoCyte flow cytometers are crucial and valuable tools for immunological and biopharmaceutical research.



NovoCyte Penteon system with 5 laser and 30 fluorescence parameter.



Identification of immune cells in peripheral human blood with a 24-color immunophenotyping panel on the Agilent NovoCyte Penteon flow cytometer. After acquisition cells were analyzed with Agilent NovoExpress software. Hierarchical gating was used to identify all major cell subsets in human blood.

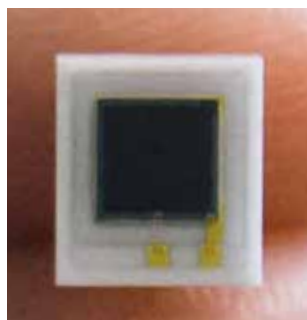
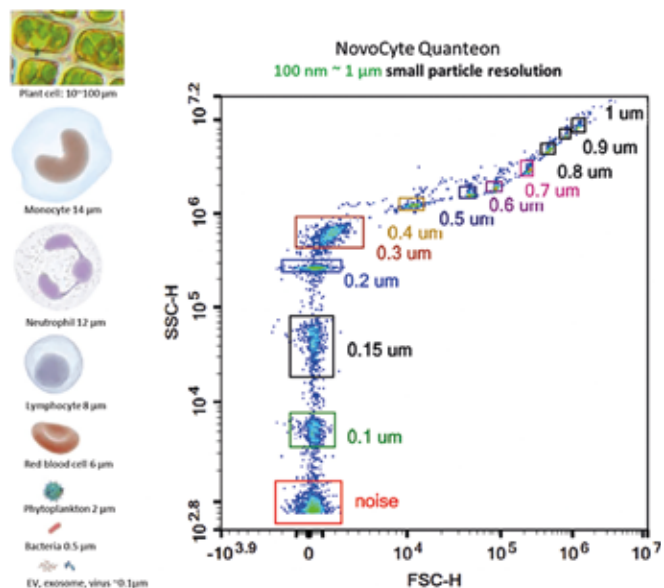
Due to their ease of use, low maintenance requirements, compliance with high regulatory standards, and automation capabilities, these systems are an important component in the drug development process.

Silicon photomultipliers (SiPMs) are advanced solid-state semiconductor devices, featuring a compact array of avalanche photodiodes that work together to detect and count photons. The innovative optical design in the NovoCyte Penteon, NovoCyte Quanteon, and NovoCyte Advanteon incorporates up to 30 independent SiPMs for signal collection and processing in each fluorescence channel. This highly sensitive detector enhances your ability to detect even the faintest signals in your samples. The NovoCyte Penteon's scatter detection optics and signal processing electronics are optimized to resolve particles as small as 0.1µm, allowing for precise identification and analysis of platelets, bacteria, and various submicron particles.

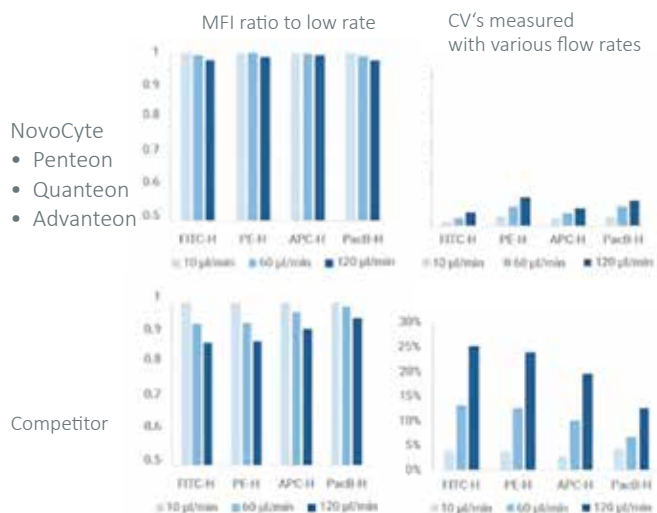


The NovoCyt[®] fluidic system is engineered for exceptional performance, providing unmatched consistency and stability compared to other flow cytometers. Unlike instruments that rely on peristaltic pumps and suffer from fluidic pulsation, leading to inconsistent and inaccurate cell counts, the NovoCyt[®] Penteon and NovoCyt[®] Quanteon deliver reliable results.

NovoCyt[®] flow cytometers cater to every need and budget. Whether you require a basic model for standard 3-laser applications, the NovoCyt[®] Advanteon for the highest sensitivity and speed, or our multi-color, high-throughput systems with four or five lasers, there is a NovoCyt[®] instrument tailored to your requirements.



Excellent scatter resolution to detect small particles: The NovoCyt[®] Penteon scatter detection optics and signal processing electronics have been optimized to resolve particles down to 0.1 µm in size. With such excellent resolution, platelets, bacteria, and various submicron particles can be readily identified and analyzed.



Flow cytometers to advance your research

- ▶ NovoCyt[®] Classic: Your basic benchtop flow cytometer with up to 3 laser and 17 colours
- ▶ NovoCyt[®] Advanteon: Advanced flexibility with 1, 2 or 3 laser options and up to 21 fluorescence channel
- ▶ NovoCyt[®] Quanteon: A 4 laser flow cytometer that can be configured with up to 25 independent photomultipliers for meeting the most demanding sample panels
- ▶ NovoCyt[®] Penteon: Flexibility to choose from up to 30 fluorescence channels utilizing up to 5 lasers with up to 30 independent detectors

NovoCyte Opteon Spectral Flow Cytometer

Every fluorochrome tells a story

- ▶ Superior performance
- ▶ High resolution and sensitivity
- ▶ User-friendly panel design
- ▶ Up to 5 lasers



The future in Spectral Flow Cytometry.

The NovoCyte Opteon is a cutting-edge instrument in spectral flow cytometry, delivering unmatched flexibility and precision. With up to 5 lasers and 73 detectors, it enables the analysis of complex multicolor panels without compromising data quality. Its innovative design simplifies panel creation with powerful unmixing tools and a comprehensive spectrum library, making it perfect for labs with advanced flow cytometry needs.

The NovoCyte Opteon stands out for its exceptional sensitivity, ensuring the reliable detection of even the faintest fluorescence signals. The dual-laser scatter analysis, leveraging both blue or violet lasers, offers detailed cell characterization with optimized size resolution down to the microvesicular range of 80 nm, while fast electronics process up to 100,000 events per second, providing quick and accurate results. The automatic shutdown routine of the NovoCyte saves time by removing the need for manual cleaning.

Novocyte Opteon Spectral Flow Cytometer

- ▶ Up to 5 lasers and 73 detectors for complex panel analysis
- ▶ Blue or violet lasers scatter for optimized cell size resolution
- ▶ 100,000 events per second for quick, accurate analysis
- ▶ Automated shutdown with integrated cleaning
- ▶ Quick and easy unmixing tools with reference library
- ▶ Powerful, intuitive NovoExpress software for exceptional user experience



The NovoCyte experience to simplify your workflow

Armed with up to 5 lasers, 73 detectors, and a demonstrated 45-color panel, the NovoCyte Opteon is your gateway to multidimensional cell analysis. Expand beyond traditional flow cytometry panels to reveal more about your samples.



Lasers and Fluorescence Channels							
System	Lasers	349 nm (20 mW)	405 nm (130 mW)	488 nm (100 mW)	561 nm (100 mW)	637 nm (120 mW)	Number of Detectors
	Channels	19	18	14	11	8	
Five Lasers	UVBYR	●	●	●	●	●	73
Four Lasers	UVBR	●	●	●		●	62
	VBYR		●	●	●	●	54
	URYB	●		●	●	●	54
	UVYB	●	●	●	●		65
Three Lasers	VBR		●	●		●	43
	VYB		●	●	●		46
	RYB			●	●	●	35

Continuously monitors fluid levels

A fluidic station will sense low sheath fluid or high waste levels, eliminating the need for manual inspection. Fluidics consumption is estimated before each plate run to ensure uninterrupted sample acquisition.

Easy startup and shut down

The quick startup, with automated fluidic rinsing, prepares the instrument for your daily use in only minutes. The pre-programmable, automated, startup and shutdown ensures that your instrument is ready when needed and ensures a proper cleaning independent of operators time. This eliminates hassle of end-of-day manual cleaning.'

Embedded quality control

Quickly run daily quality control (QC) automatically generate comprehensive QC reports, and conveniently track performance over time with Levey-Jennings plots. The automatic QC test ensures proper performance monitoring not only day-to-day, but also over long-term use.

Hassle-free fluidics

Electronically monitored valves and sensors allow for automatic clog detection and recovery. A feedback control system continuously manages the sheath flow rate to maintain exceptional stability. The embedded self-diagnosis and recovery functions reduce downtime and ensure data quality.



Scan to see the video:
Full spectrum, full insight- no complexity

Antibodies and Isotope Controls for Flow Cytometry

Top-cited, clones-conjugated and validated

- ▶ Variety of fluorescent dyes
- ▶ Validated for use in flow cytometry
- ▶ Easily build multiplex panels
- ▶ Reduced costs

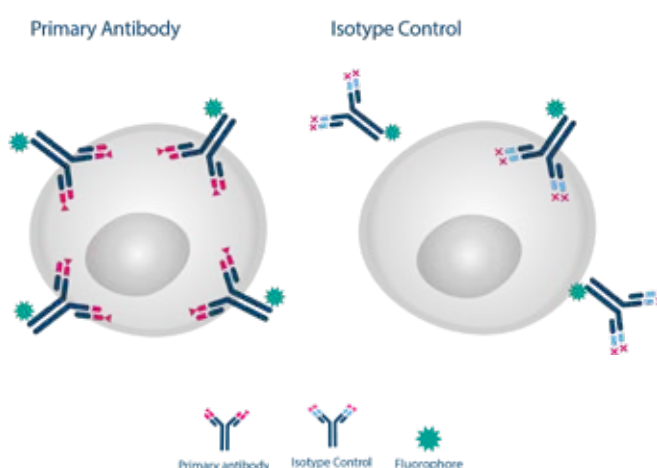
Find a comprehensive range of top-cited, thoroughly validated antibodies and isotype controls for flow cytometry from Proteintech, providing flexibility in building your experimental panels. The antibodies are conjugated to a variety of fluorescent dyes, including FITC, PE, APC, and the proprietary CoraLite dyes. The CoraLitePlus 488, CoraLite 594, and CoraLite 647 dyes match the brightness of Alexa dyes and offer long-lasting

fluorescence with minimal spectral overlap, making them ideal for multiplexing with other popular dyes. In addition to our conjugated antibodies, we offer over 3000 thoroughly validated, unconjugated antibodies, allowing you to choose the dye that best suits your needs. The flow cytometry-validated antibodies are designed for easy integration into multiplex panels, providing reliable and specific staining.

Isotype Controls for Flow Cytometry

For rigorous flow cytometry results

To ensure accurate results, it's crucial to include experimental controls to differentiate specific staining from background noise. Isotype controls are used as negative controls in antibody staining applications. They share the same host species, IgG class, and subclass as the primary antibodies but lack specificity for the target protein. Using isotype controls helps identify non-specific binding and assess the effectiveness of blocking and washing steps in your protocol. A great selection of 48 isotype control antibodies are offered, available unconjugated and conjugated to APC, FITC, PE, CoraLite488, CoraLite594, and CoraLite647. These controls are offered to various species, including mouse, rat, and Armenian hamster, ensuring broad applicability in flow cytometry experiments.



Isotype controls for flow cytometry matching the characteristics of primary antibody.



FlexAble Antibody Labeling Kits

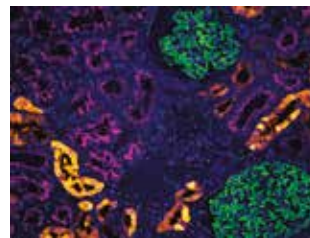
Rapid and innovative IgG Labeling Solutions

- Compatible with antibodies from any supplier
- Works with any antibody concentration and buffer formulation
- No buffer exchange needed
- Labeling completed in 10 minutes

The FlexAble antibody labeling kit is an advanced solution designed to streamline and enhance the antibody labeling process. This innovative kit allows for the conjugation of antibodies with fluorochromes, enzymes, or other molecules, accommodating a wide range of experimental needs. One of its key advantages is its universal compatibility; it works with antibodies from any supplier and can handle various antibody concentrations and buffer formulations without the need for buffer exchange.

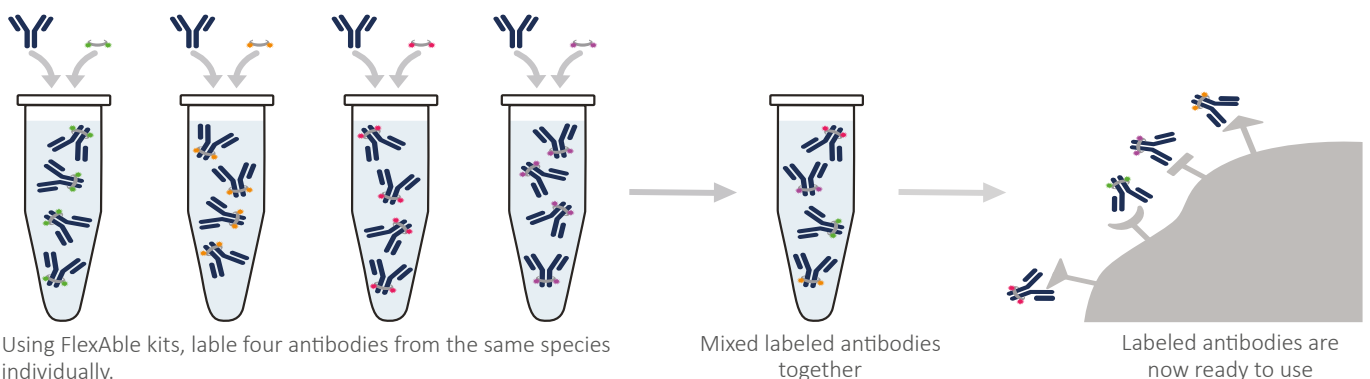
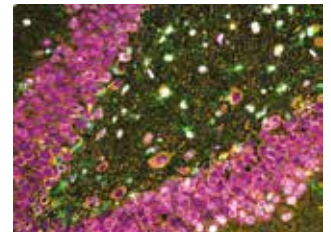
The kit features a rapid and efficient 2-step protocol, enabling you to complete the labeling process in just 10 minutes. This quick turnaround accelerates research workflows and minimizes downtime. Additionally, the labeling process is straightforward and does not require any extra equipment, simplifying its integration into your laboratory practices. Another significant benefit is the kit's scalability. Whether you need to label as little as 0.5 µg of antibody or scale up for larger quantities, the kit adapts to your requirements, providing versatility for both small and large-scale experiments.

Overall, the FlexAble antibody labeling kit combines ease of use, speed, and flexibility, ensuring reliable and high-performance labeling that enhances the quality and efficiency of your assays and experiments.



Immunofluorescence of human kidney: FFPE human kidney sections were stained with anti-Calbindin (14479-1-AP) labeled with FlexAble CoraLite Plus 550 Kit (KFA002, yellow), anti-ACE2 (66699-1-Ig) labeled with FlexAble CoraLite Plus 650 Kit (KFA023, magenta), CoraLite 488-conjugated Podocalyxin antibody (CL488-18150, green) and DAPI (blue).

Immunofluorescence of rat brain tissue: FFPE rat brain tissue sections were stained with anti-NeuN (66836-1-Ig) labeled with FlexAble CoraLite Plus 650 Kit (KFA023, magenta), anti-TUBB3 (66375-1-Ig) labeled with FlexAble CoraLite Plus 550 Kit (KFA022, orange) and CoraLite 488-conjugated GFAP antibody (CL488-60190, green).



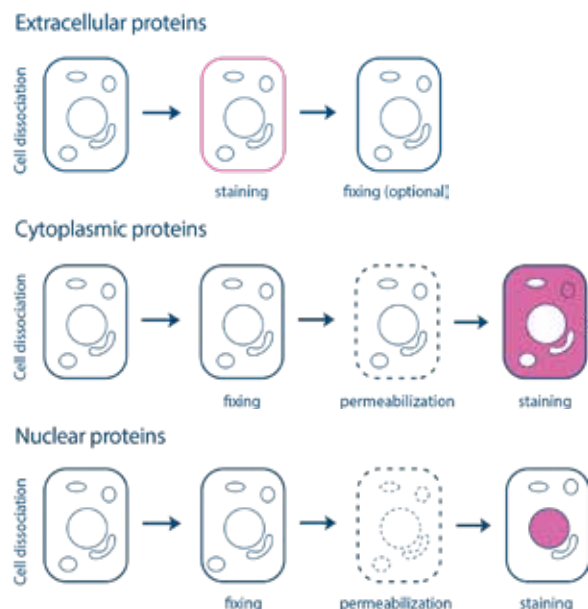
Products for Intracellular Flow Cytometry

Validated targets for flow cytometry

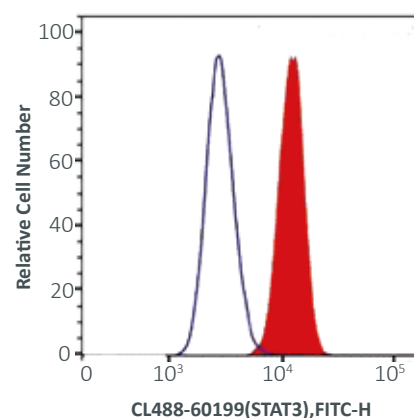
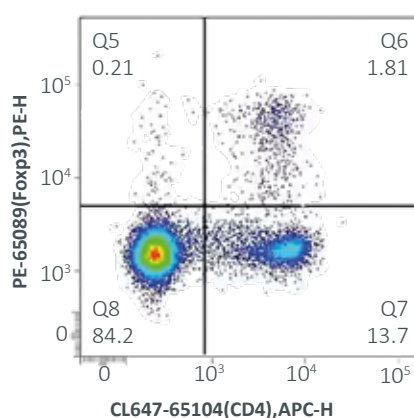
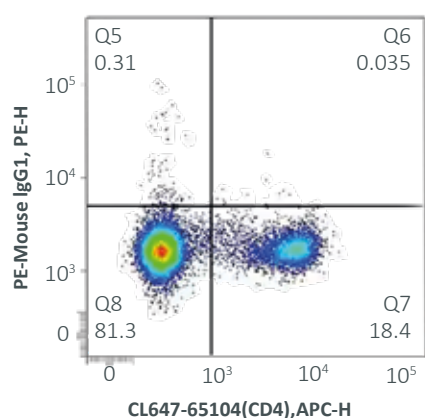
- ▶ Intracellular staining
- ▶ Ready-to-use buffers
- ▶ Validated protocols for optimal results

Intracellular staining is vital for biopharmaceutical research, enabling detailed analysis of intracellular signaling pathways, drug mechanisms, and treatment effects. This level of insight is essential for discovering effective compounds and developing targeted therapies.

We offer a range of products for labeling intracellular proteins, including fix and perm buffers, and antibodies conjugated to various fluorophores. Unlike traditional flow cytometry for cell surface markers, intracellular flow cytometry stains proteins within cells, such as phosphorylated signal transducers, transcription factors, and cytokines. The optimized fixation and permeabilization reagents ensure that antibodies penetrate cell and nuclear membranes, providing reproducible results in single-cell analysis.



The intracellular flow cytometry products are designed to deliver reliable and precise data, supporting advanced research in drug development.



1X10⁶ mouse splenocytes were surface stained with CoraLite®647-conjugated Anti-Mouse CD4 (GK1.5) (CL647-65104, Clone: GK1.5) and then fixed and permeabilized with Transcription Factor Staining Buffer Kit (PF00011). Cells were then stained with 0.13 ug PE-mouse IgG1 isotype control or 0.13 ug PE Anti-Mouse Foxp3 (PE-65089, Clone: 3G3).

1X10⁶ HepG2 cells were intracellularly stained with 0.4 ug CoraLite®488 Anti-Human STAT3 (CL488-60199, Clone: 3G2D12) (red), or 0.4 ug Mouse IgG2a Isotype Control (CL488-66360-2, Clone: K11A1B2A2) (blue). Cells were fixed with 4% PFA and permeabilized with Flow Cytometry Perm Buffer (PF00011-C).

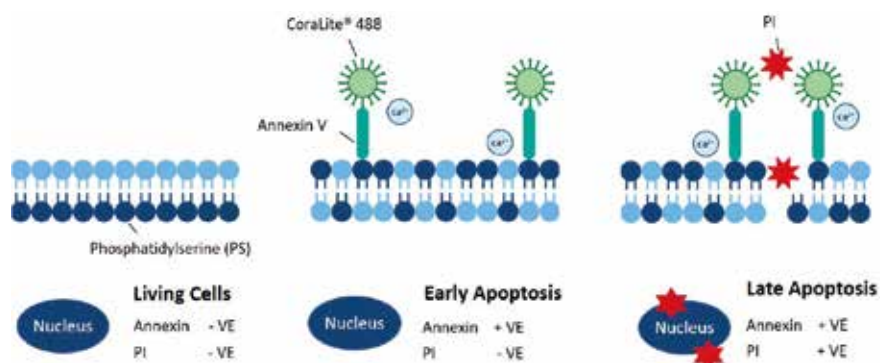


Supporting Reagents and Kits for Flow Cytometry

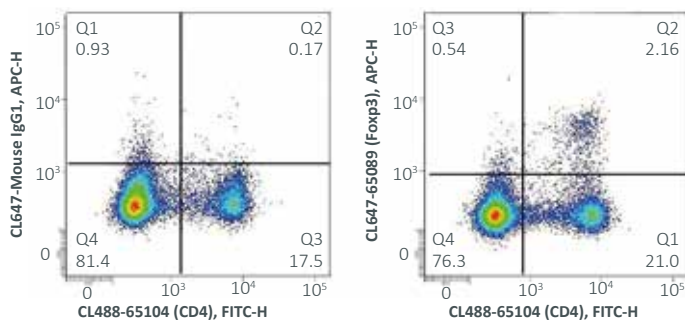
Reagents to ensure the quality of your data

- ▶ Viability dyes and apoptosis assays
- ▶ Buffers for easy intracellular staining
- ▶ Secondary antibodies

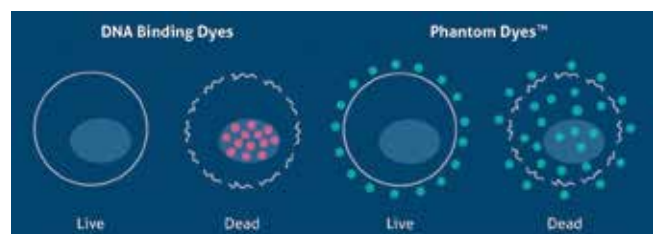
Our supporting reagents and kits for flow cytometry are designed to enhance the accuracy and reliability of your experiments. We offer essential tools, including viability dyes and apoptosis assays like Phantom Dye Red 780, a fixable dye that accurately differentiates between dead and live cells, and Annexin V, which detects early apoptosis by binding to phosphatidylserine. We also provide complete kits for a comprehensive analysis of apoptotic cells.



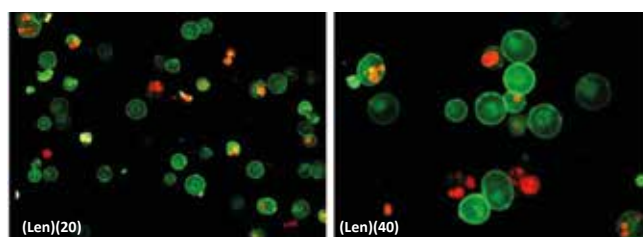
To simplify intracellular staining, our specialized buffers ensure efficient antibody penetration, delivering consistent and reproducible results. These products are essential for achieving high-quality data in flow cytometry.



1X10⁶ mouse splenocytes were surface stained with CoraLite488-conjugated Anti-Mouse CD4 (GK1.5) (CL488-65104, Clone: GK1.5) and then fixed and permeabilized with Transcription Factor Staining Buffer Kit (PF00011). Cells were then stained with CoraLite647-conjugated mouse IgG1 isotype control or 5 ul CoraLite647-conjugated Anti-Mouse Foxp3 (CL647-65089, Clone: 3G3).



Schematic of the mechanism of DNA binding dyes and Phantom Dyes (fixable viability dyes), demonstrating how they penetrate live and dead cells.



Green: Staining with CL488-Annexin V for apoptotic cells or early apoptotic cells. Red: Staining with PI for dead cells; Yellow: double staining with CL488-Annexin V and PI for necrotic cell or late apoptotic cells.

Cell Analysis

Real-time live cell analysis

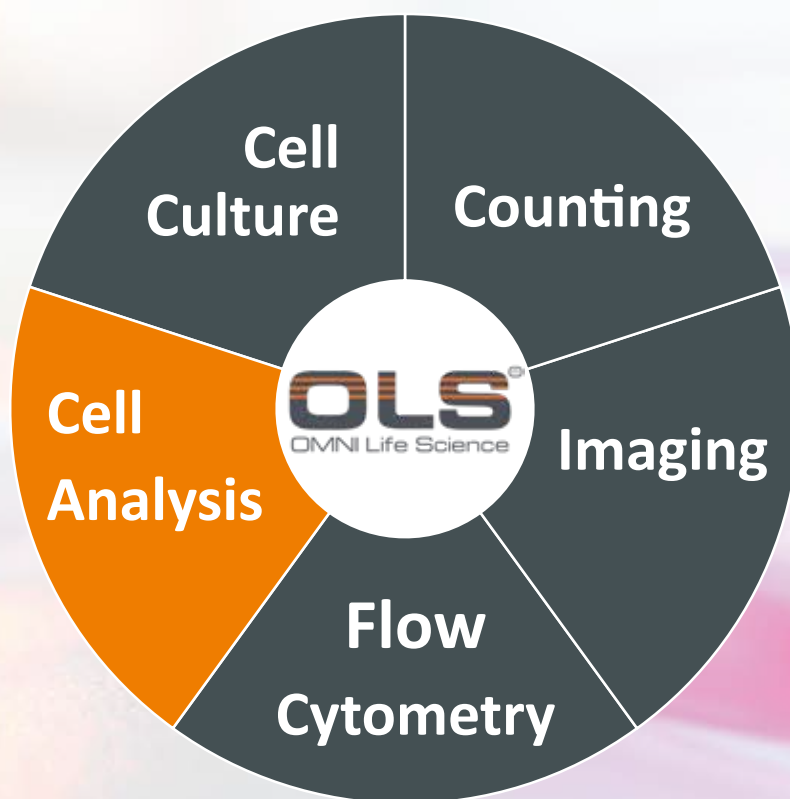
Tissue dissociation

Immunoassays

Our Brands



Agilent

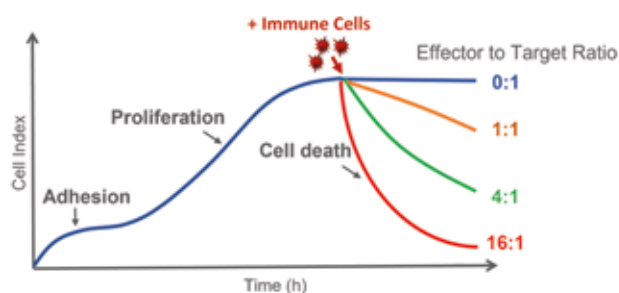


xCELLigence Real-Time Cell Analyzer (RTCA)

Gain insights into cellular function in real time

- ▶ Highly sensitive
- ▶ No cell labelling
- ▶ Real-time data analysis
- ▶ Easy to operate
- ▶ Non-invasive

xCELLigence Real-Time Cell Analysis (RTCA) systems use label-free cellular impedance to continuously monitor cell health, behavior, and function with high accuracy, sensitivity, and reproducibility. Obtain continuous data at high temporal resolution (from seconds to days) under physiological conditions and gain insights into various cellular properties, like adhesion, proliferation, cytotoxicity, barrier function, morphology as well as migration and invasion. Select for your throughput needs and choose from 16 well-plates up to 384 well-plates. The intuitive RTCA Software Pro allows automatic calculation of parameters, like doubling time, % cytotoxicity, IC50 or KT50.



Cell behaviour- like cell adhesion, morphological changes, proliferation, cell death- has an impact on cellular impedance, which is reported in real time as dimensionless parameter, called Cell Index.



"We are investigating the activity of natural killer (NK) cells. When using adherent target cells, the xCELLigence system provides label-free and real time data about the NK cell killing activity. Especially when combining NK cells and cytotoxic substances we can determine the individual contribution of each factor, but also synergistic effects on target cell killing. Additionally, we are using the xCELLigence system to determine NK cell adhesion and activation in a time-resolved fashion."

Prof. Dr. Carsten Watzl

Scientific Director, Leibnitz-Institut für Arbeitsforschung, TU Dortmund



The xCELLigence Real-Time Cell Analysis (RTCA) HT instrument uses label-free cellular impedance to continuously monitor cell health, behavior, and function with high accuracy, sensitivity, and reproducibility.



xCELLigence RTCA Family

Choose for your specific throughput needs and applications

Assays	RTCA S16	RTCA DP Dual Purpose	RTCA SP Single Plate	RTCA MP Multiple Plates	RTCA HT High- Throughp.	RTCA Cardio	RTCA Cardio ECR	RTCA eSight
Cell Characterization/QC	•	•	•	•	•	•	•	•
Immunotherapy/Cell Killing	•	•	•	•	•	•	•	•
Adhesion	•	•	•	•	•	•	•	•
Receptor Signalling	•	•	•	•	•	•	•	•
Invasion / Migration		•						•
Cardiotoxicity						•	•	
Extracellular Recording							•	
Live Cell Imaging								•



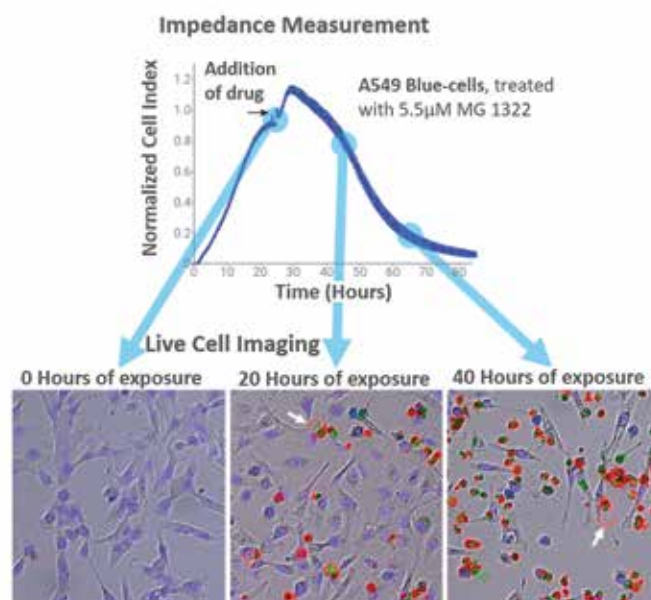
xCELLigence Real-Time Cell Analyzer family offers the right system for many different purposes. Different formats are available as 16, 48, 96, 3/5/6x96, or 384 wells.

xCELLigence eSight Real-Time Cell Analyzer (RTCA)

Get twice the results from one powerful system

- ▶ Live cell analysis
- ▶ Multi-modal: imaging & impedance
- ▶ Exceptional versatility
- ▶ Easy and fast workflow

The xCELLigence RTCA eSight system combines highly sensitive, impedance-based cell analysis with the power of live cell imaging in 3 colors (red, green, and blue) - simultaneously, in real time. This combination enables comprehensive live cell analysis and increased insight into cell health, cell behavior, cell function and cell biology processes. eSight RTCA provides a continuous readout of cell number, proliferation rate, cell size, cell shape, immune cell killing status, phagocytosis, substrate attachment quality and spheroid growth. Live cell imaging and real-time biosensor measurements can be performed on the same cell populations, providing an internal control and less variability than working with multiple replicate plates. Run parallel assays on the same plate, in the same instrument, and on the same cells, so that you can eliminate any suspicions of result inconsistency created through changing plates, materials and instruments. The streamlined workflow, high reproducibility, and quantitative kinetics of the eSight system makes it ideal for a wide range of cell-based assays.



Red: Annexin V; Green: Activated Caspase 3; Blue: Nuclear-localized BFB

Combining Live-Cell Imaging with Cellular Impedance to monitor apoptotic cell death in real time.



xCELLigence RTCA eSight: Run up to five 96-well plates independently or simultaneously and obtain quantitative data in real time.

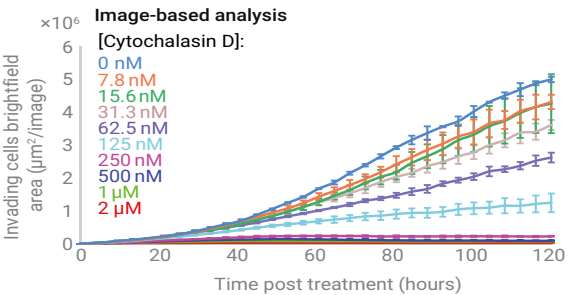


New insight in live cell analysis applications for the eSight RTCA

3D spheroid invasion

Study invasive potential of tumor spheroids over time as you measure and quantify metastatic potential by label or label-free analysis. Investigate response to treatments and the inhibitory effect on invasion and progression.

Imaging



Cell-by-cell analysis

Continuously monitor and quantify single cell segmentation by label-free analysis. Gather cell count and nuclear fluorescent recognition count as a function over time. Measure cell subpopulations over time and gain insights into cellular heterogeneity.

Imaging

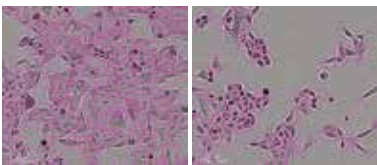
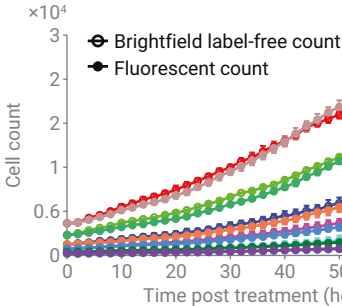


Image-based analysis



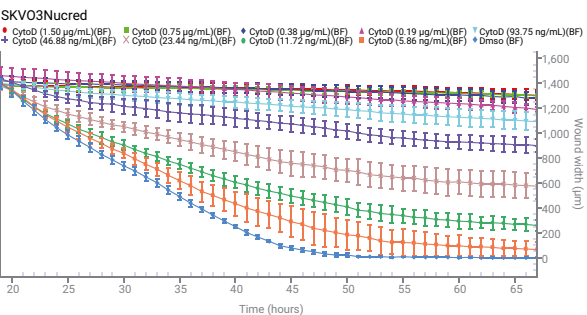
Wound healing migration and invasion

Assess the effects of treatments on cell migration profiles and investigate the rate of wound closure. Explore metastatic potential and how various conditions affect or delay healing. Metrics such as wound width, confluence, cell index, object count, and density are easily measurable with automated software.

Imaging



Image and impedance-based analysis



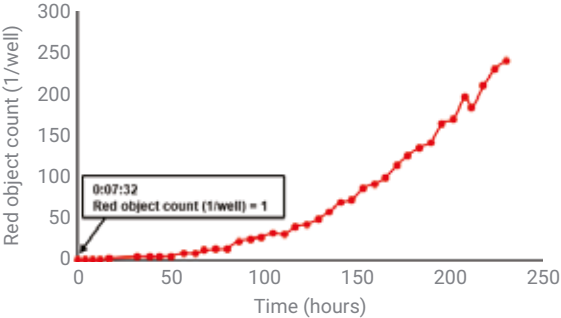
Dilution cloning

Easily track cell monoclonal stable cell lines over time using a limited dilution cloning method on eSight. Automatically screen clonal cell lines with minimal effort and high efficiency.

Imaging



Image-based analysis



CellRaft AIR System

Cell Engineering and Colony Isolation

- ▶ Viability of monoclonal colonies
- ▶ Image-based proof of monoclonality
- ▶ Gently isolate clones without fluidics

Generate phenotypically verified single cell-derived colonies in as little as 72 hours, with just 15 minutes of hands-on time, and 10 to 50x the number of clones compared to traditional methods. Cells share and enrich a common culture media while remaining separated. This contiguous media approach is much more favorable and dramatically increases cell viability.

Eliminate the need for trypsin, fluidics, or limiting dilution while getting more clonal colonies, even in difficult to clone cells.

The CellRaft AIR System is an integrated platform that uses proprietary CellRaft technology and CellRaft Arrays to maintain cells in an unperturbed state, leading to improved viability of cells, highly proliferative colonies, and superior clonal outgrowth that provides a dramatic increase in the number of clones available for downstream applications.

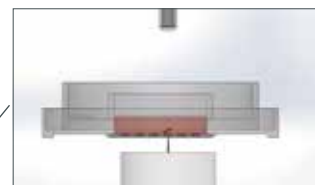
Applications:

- Monoclonal cell line development
- Stem cells e.g. iPSC
- CRISPR gene editing
- Organoids
- Single-cell genomics

- Obtain 10- 50X more viable monoclonal colonies or organoids.
- Grow single cells in a flask-like environment, eliminating perturbation to cell physiology and ensuring viability and vitality of single cells as they develop into clones.
- Identify cells of interest using powerful, label-free brightfield analysis software with user-defined parameters.
- Automatically and gently isolate CellRafts containing cells or colonies of interest for downstream endpoint analysis or clonal expansion.



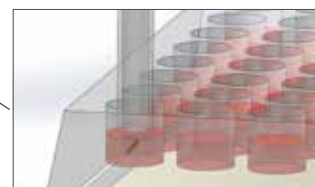
The desired raft with cells is dislodged from the array.



The wand picks up the raft using a magnet.



The wand places the raft with the cells in the 96-well plate.



TIGR Tissue Grinder & Dissociator

Single cell generation in less than 5 min

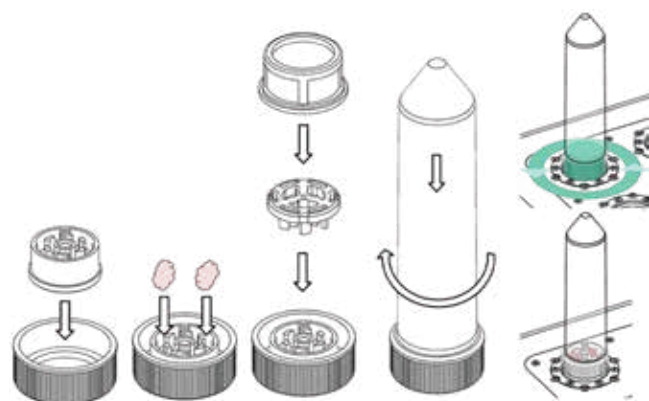
- ▶ Enzyme free
- ▶ High-throughput with 4 slots
- ▶ Integrated cell stainer

The TIGR Tissue Grinder & Dissociator provides a unique and effective concept to generate single cells. This enzyme-free, purely mechanical process preserves membrane proteins, completing dissociation in less than two minutes. Four slots, which can be operated in parallel, allow high-throughput tissue dissociation. The specially designed tubes, are available in sterile single packs reducing the risk of contaminations.

Up to 400 mg tissue per tube are dissociated by a combination of cutting and grinding steps. The single cells are finally obtained by centrifugation through integrated cell strainers with 40, 70 or 100 µm mesh size.

Applications:

- 3D Cell Culture
- Tissue Models – Spheroids, Organoids, Tumoroids
- Single Cell Counting
- Isolation of Primary Cells
- Cancer Cell Line Development
- Flow Cytometry



TIGR Tissue Grinder & Dissociator offers a fast and simple workflow from tissue to single cells.

Established Protocols	Proven Protocols for your Optimization
Liver	Brain
Lung	Urinary bladder
Heart	Thyroid
Kidney	Tonsil
Spleen	Prostate
Stomach	Endometrium
Colon	Ovary
Pancreas	
Lymph node	

TIGR Tissue Grinder & Dissociator principle: The grinding unit interlocks with rows of teeth that can be moved against each other. Free rotation of the grinding teeth draws the tissue sample into the free space applying adequate amounts of shearing and milling force to gently isolate single cell from the tissue. The space between the grinding teeth and their fin-shaped geometry allows efficient extraction of viable single cells.

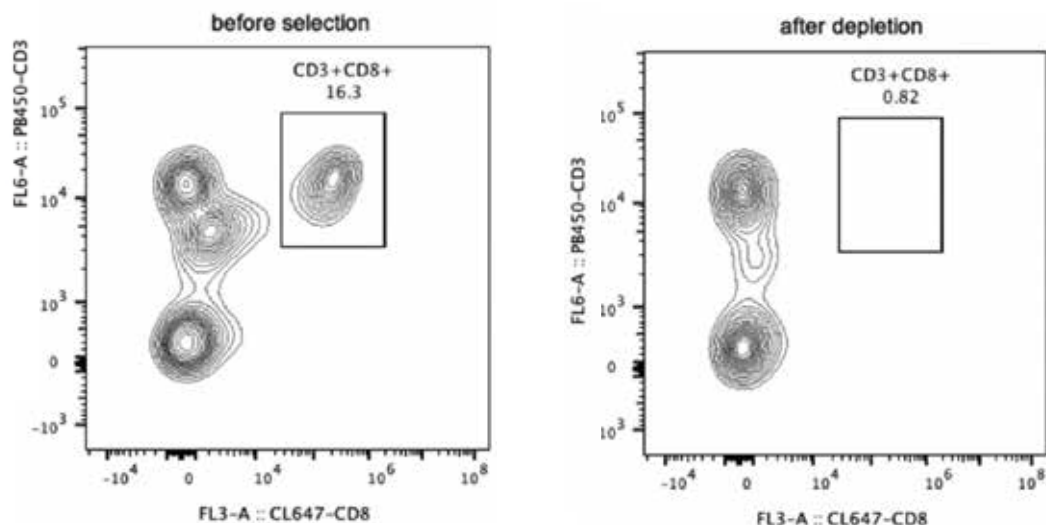
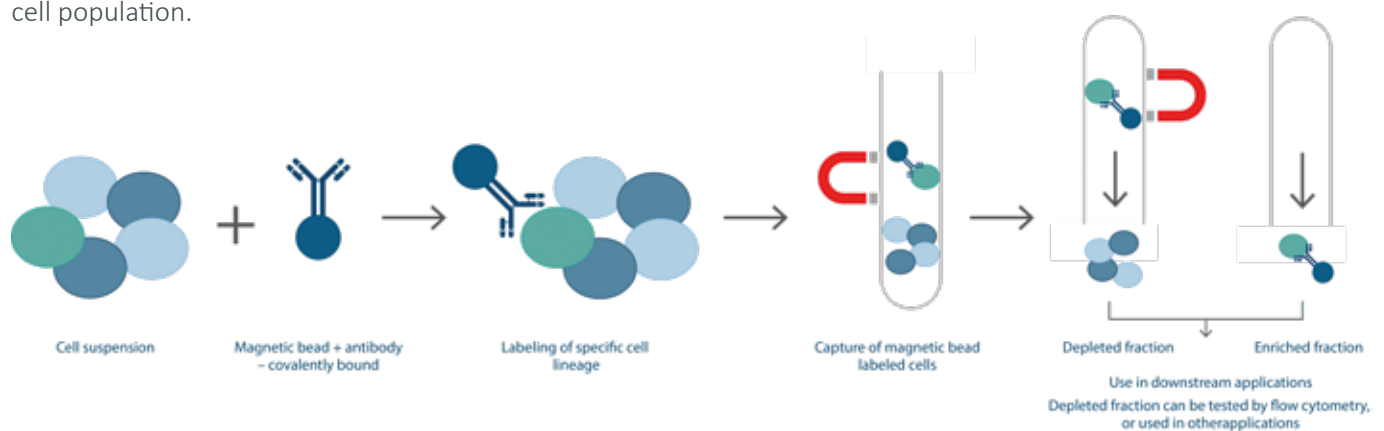


Magnetic Cell Separation Systems

Easy and fast cell separation without column

- ▶ Developed using authentic human proteins
- ▶ Detects quantitative protein level in human serum, plasma
- ▶ High sensitivity and broad assay range
- ▶ Consistent results with high reproducibility

Magnetic bead kits and reagents for the positive or negative selection of cell types from a heterogeneous cell population.



Following depletion of CD8+ cells, supernatant cell suspension was stained with PB450-CD3(clone: HIT3a) and CL647-CD8(clone: OKT8) antibodies. CD45 positive cells are gated in the analysis. Left panel: CD3+CD8+ cells before selection. Right panel: CD3+CD8+ cells after depletion. Human CD8 magnetic beads are tested using PBMC from three different donors.

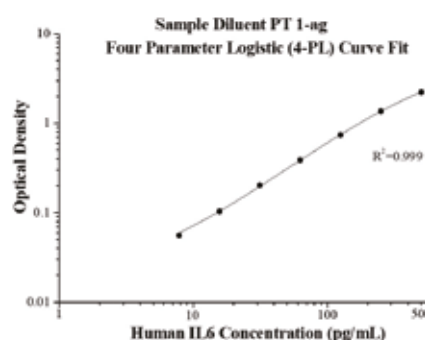


AuthentiKine ELISA Kits

ELISA kits 10-1000x more sensitive than competitors

- ▶ Developed using authentic human proteins
- ▶ Quantitative protein level in human serum, plasma, or cell culture
- ▶ High sensitivity and broad assay range
- ▶ Consistent results with high reproducibility

AuthentiKine ELISA kits are Proteintech's premium line of ELISA kits for measuring minute quantities of human serum factors. The antibody manufacturing and conditions for optimizing are built around using human proteins as they are in nature, resulting in unparalleled sensitivity and accuracy. When compared against leading competitors, our AuthentiKine ELISA kits are 10-1000x more sensitive, meaning these ELISAs can be used in situations where previous kits failed.



Standard curve of KE00139 AuthentiKine Human IL-6 ELISA Kit.

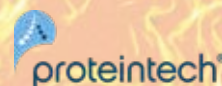
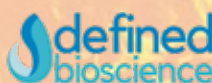
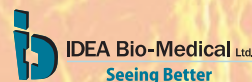
ELISA Kits

Pre-coated ELISA Kits validated in native samples

- ▶ High sensitivity
- ▶ High reproducibility
- ▶ Detection of protein level
- ▶ Consistent results

Expertly validated, pre-coated ELISA kits for the detection of proteins, cytokines, growth factors, chemokines, and SARS-CoV-2 related proteins and antibodies. The kits conveniently include protein standards and strip-well plates, and are highly cited thus demonstrating performance. All ELISA kits are made in house and are validated to detect protein levels in native samples.





Thanks to our partners.

