bucher Update
biotec

April 2022
www.bucher.ch

Explore new dimensions through spatial context

MERSCOPE™, the first high multiplexing, high resolution *in-situ* platform to combine single-cell and spatial genomics analysis powered by MERFISH technology.

vizgen

Bucher Biotec AG • Viaduktstrasse 42 • 4051 Basel • Phone 061 269 1111 • info@bucher.ch

Capture Biological Complexity

Your complete *in-situ* platform for single-cell spatial genomics

Introducing the new Vizgen MERSCOPE™ Platform

To truly understand cell biology and gene expression, researchers need tools that preserve the natural complexity of tissues. They need to capture the heterogeneity of cells to know how tissues are organized and how those cells interact. This is what ***in situ*** single-cell spatial genomics achieves.

Operating at the intersection of genomics and traditional biomarker imaging technologies, highly multiplexed in situ detection captures the nuances of gene expression by profiling single cells – both common and rare – in their native environment. It's a new dimension of biology that can provide rich insight into how an organism functions.

- **HIGH CELL THROUGHPUT**
  - Several hundred thousands of cells
- **FLEXIBILITY**
  - +20 tissue types, including mouse and human
  - Fresh, fixed-frozen, FFPE
- **MASSIVE MULTIPLEXING**
  - Up to 500 genes, 1cm^2 of tissue
- **100nm RESOLUTION**
  - Single-cell and sub-cellular imaging
- **UNPARALLELED SENSITIVITY**
  - Identifying lowly expressed genes

Why MERSCOPE?

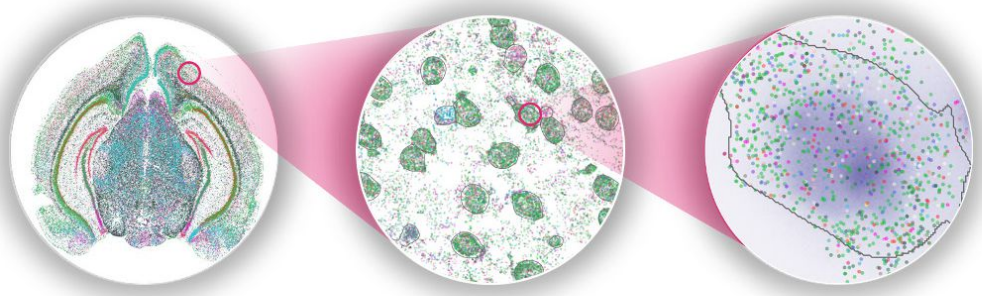
Position yourself at the forefront of scientific discovery with the **MERSCOPE™** Platform, the industry's first high-plex, *in-situ* single-cell spatial genomics solution. MERSCOPE uses MERFISH technology to directly map and quantify the spatial distribution of hundreds to tens of thousands of RNA species in individual cells, without the need for downstream sequencing.

MERFISH technology expands on the capabilities of single molecule FISH (smFISH) by using combinatorial labeling, sequential imaging, and error-robust barcoding to detect RNA with sub-micron accuracy. This gives researchers a window into the intracellular organization of the transcriptome within every cell.

Profile Large Tissue with Subcellular Resolution

With the MERSCOPE platform, Vizgen combines MERFISH technology with high resolution imaging, fluidics, image processing, and automation to deliver a complete end-to-end spatial genomics solution. Your lab can quickly begin generating data with a platform that provides all the components required to obtain and analyze high quality spatial genomic measurements, powered by MERFISH technology.

MERFISH • Multiplexed Error Robust Fluorescence *In-Situ* Hybridization
Profiling 483 genes with subcellular resolution across a full mouse coronal slice



WHOLE SECTION

9 x 7 mm
Organization of tissue

WIDE FIELD OF VIEW

200 x 200 micron
Cell interaction/function

SUB-CELLULAR

12 x 12 micron
L2/3 IT Glutamatergic neuron

Isoplexis – The Superhuman Cell Company

Function Mapping Reveals Each Cell's Superpowers

Introducing the Isoplexis IsoLight and IsoSpark Systems

IsoPlexis' functional phenotyping reveals the rare subsets of cells that simultaneously secrete multiple cytokines. These polyfunctional cells are responsible for orchestrating immune responses and are predictive of patient response and disease progression in vivo. Unmasking these highly polyfunctional cells is imperative in accelerating the development of advanced, curative medicines. IsoPlexis developed a new library of cells characterized by functional proteomics to complement the genomic-based Human Cell Atlas. The Functional Cell Library (FCL) adds a unique layer of proteomic data on the wide range of superpowered immune and tumor cell types uniquely identified by IsoPlexis' single-cell functional proteomics.

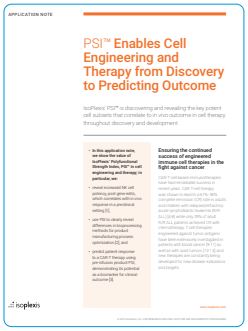
Functional Immune Landscaping
Accelerate the ability to clarify lead candidate choice and durable biomarkers using the proteomic secretome from each single cell to accelerate the path to higher efficacy with targeted immune therapies.

Intracellular Signaling Omics
Identify adaptive phosphoproteomic signaling networks from rare subsets of single cells, targeting the entire set of signaling pathways to eliminate resistance and metastases.

High-Plex Walk-Away Immunoassays
For the first time, unleash walk-away multiplexed proteomics in very low sample volumes, with an analytics suite that saves resources and time while delivering key omic insights.

Isoplexis' mission is to leverage the superhuman cells in all of us to change the course of human health. The Functional Cell Library provides the bridge to leverage unique functional phenotyping data to patient responses in vivo for translational and clinical applications. IsoLight and IsoSpark systems, which uniquely reveal these superhuman cells through single-cell and proteomic innovations, are enabling customers to advance the future of medicines against complex diseases.

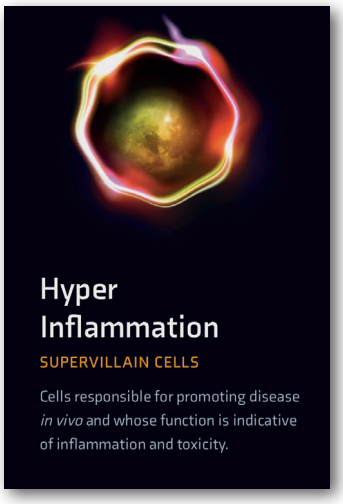
PSI™ Enables Cell Engineering and Therapy from Discovery to Predicting Outcome
Learn how Isoplexis' polyfunctionality strength index PSI helps you discover and reveal the key potent cell subsets that correlate to *in vivo* outcome in cell therapy throughout discovery and development.

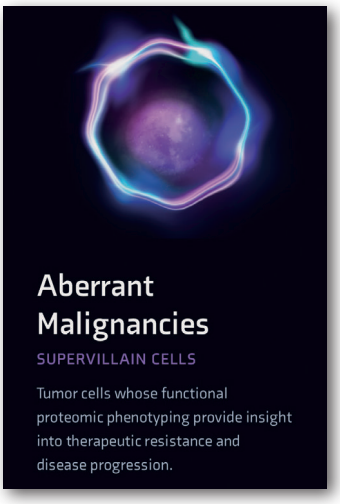

APPLICATION NOTE

PSI™ Enables Cell Engineering and Therapy from Discovery to Predicting Outcome

In this Application Note you'll find:

- **Use Polyfunctionality and PSI to reveal synergies and mechanism with novel Combination Therapies**
- **Use PSI to clearly reveal differences in bioprocessing methods for product manufacturing process optimization**
- **Predict patient response to a CAR-T therapy using pre-infusion product PSI, demonstrating its potential as a biomarker for clinical outcome**





> *"Polyfunctional Cells are the Subsets with **Superpowers**."*
>
> **Rong Fan, Ph.D.**
> Associate Professor of Biomedical Engineering at Yale and co-founder of IsoPlexis

Untangle the Complexity of Cancer with True Multi-Omics

Single-cell DNA sequencing and protein analysis

Introducing the new Mission Bio Tapestri Platform

The Mission Bio Tapestri Platform is the only system capable of simultaneously providing both genotype and phenotype data from the same cell, across thousands of single cells.

Mission Bio Tapestri is a targeted solution for:

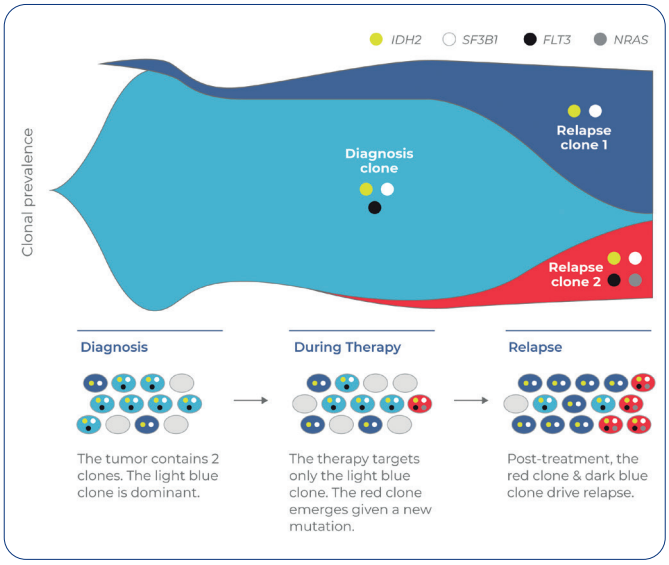
- Hematologic Malignancies
- Solid Tumor Profiling
- Genome Editing Validation
- Custom-designed Solution

Load your cells on the cartridge and use the proprietary two-step microfluidic workflow of the Tapestri for single-cell encapsulation and barcoding. Sequence the genomic regions of interest and the oligo-tagged antibodies bound to the same single cell to track clonal evolution, reconstruct phylogenetic trees, uncover zygosity and mutation co-occurrence, reveal therapy resistance mechanisms, and monitor disease during remission to track MRD (minimal residual disease).

Obtain multiple analytes from a single cell:

- Single nucleotide variants (SNVs)
- Copy number variations (CNVs)
- Protein expression

You can run targeted single-cell DNA panels with catalog and customizable content, so you can focus on the mutations and regions of interest that are most informative for your disease research. For simultaneous single-cell DNA and protein analysis, configure your own antibody cocktail from a growing catalog of pre-optimized antibody oligonucleotide conjugates (AOC). Or, start with the pre-designed 45-protein TotalSeq™-D Heme Oncology Cocktail. TotalSeq™ oligo-conjugated antibodies from BioLegend integrate seamlessly into the Tapestri single-cell DNA sequencing workflow to amplify the power of single-cell analysis.



- **NEW:** do more single cell with less – 20,000 cells input possible
- Single-cell DNA & protein analysis from up to 10,000 single cells
- High sensitivity for rare clones – down to 0.1%
- Intuitive software for panel design, data analysis and visualization
- Compatible with TotalSeq™-D antibody content from BioLegend

TARGET SELECTION → CHOOSE A PRE-DESIGNED OR CUSTOM DNA PANEL

SAMPLE PREP → ADD A PROTEIN PANEL AND SIMPLE CELL STAINING PROTOCOL

LIBRARY PREP → SINGLE WORKFLOW COMBINES DNA AND PROTEIN PANELS

SEQUENCING → SINGLE SEQUENCING RUN FOR MULTI-OMICS SINGLE-CELL DATA

PIPELINE → INTEGRATED PIPELINE FOR MULTI-OMICS ANALYSIS

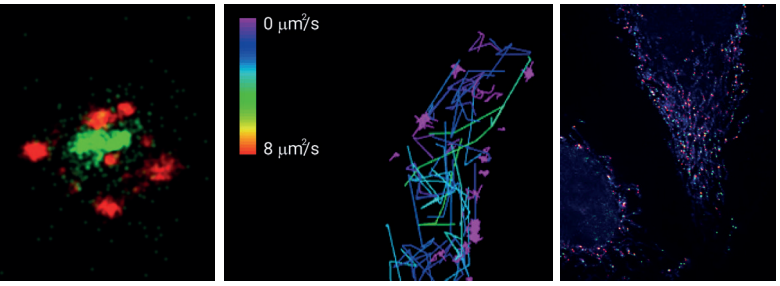
ANALYSIS POWERFUL ANALYSIS AND VISUALIZATION SOFTWARE

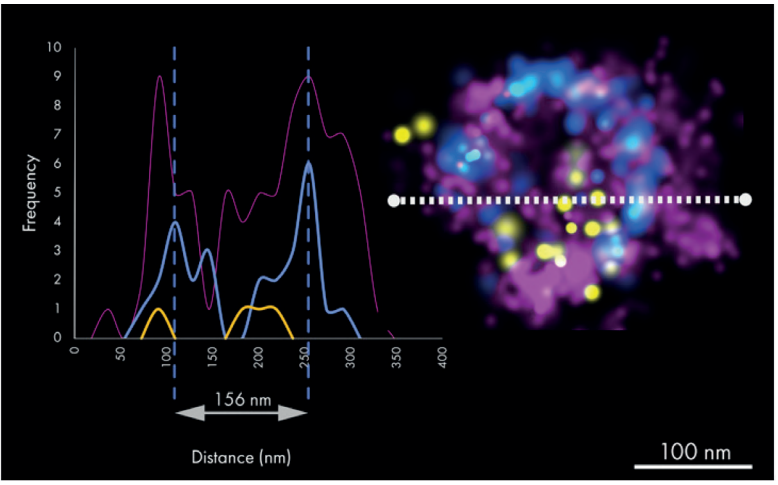
astONIshing

Single Molecule Imaging at your Lab Bench

Meet the Nanoimager

The Nanoimager of Oxford Nanoimaging (ONI) is the world's first, desktop-sized microscope capable of observing individual molecules within living cells. It offers various modes of operation including dSTORM, PALM, smFRET and supports illumination modes from epifluorescence to TIRF. With this range on offer, it's easier than ever to get the most out of fluorescence microscopy, both when imaging fixed samples stained with immunofluorescence protocols or during live-cell imaging.





- **Single-Particle Tracking**
  - Microfluidics compatible
  - Whole body heating
  - Dedicated tracking analysis
- **dSTORM & PALM**
  - Resolution up to 20 nm
  - Real time rendering
  - 3D imaging
- **Single-Molecule FRET**
  - Interactions within 1-10 nm range
  - Individual and group events
  - Dedicated smFRET analysis
- **Unique, compact design**
  - Compatible with BSL3 safety cabinets
  - Minimal space requirements in BSL4 facilities

Interested in evaluating super-resolution microscopy?

Advanced Microscopy For All
Created by scientists for scientists, the Nanoimager delivers the highest precision for single molecule and advanced imaging.

This highly sophisticated research tool enables super-resolution applications dSTORM, PALM and single particle tracking with ultimate precision, even at 20 nm scale, by stabilizing both drift and vibrations. Integrated analytics tools deliver faster, accessible data even before your task completes.

Proven in the lab
The Nanoimager has earned its place in the great seats of academia and research. Hoffmann-La Roche, Univ. Zürich, the University of Cambridge, Harvard and Cancer Research UK are just a few of the users deploying the Nanoimager for diverse applications in microscopy.

Nanoimager Applications

- Tracking Viral Particles & Extracellular vesicles
- Protein Complex Assembly
- Host Pathogen Interactions
- Single Molecule Tracking
- Quantitative Cellular Imaging
- Molecular Mechanisms and Interactions

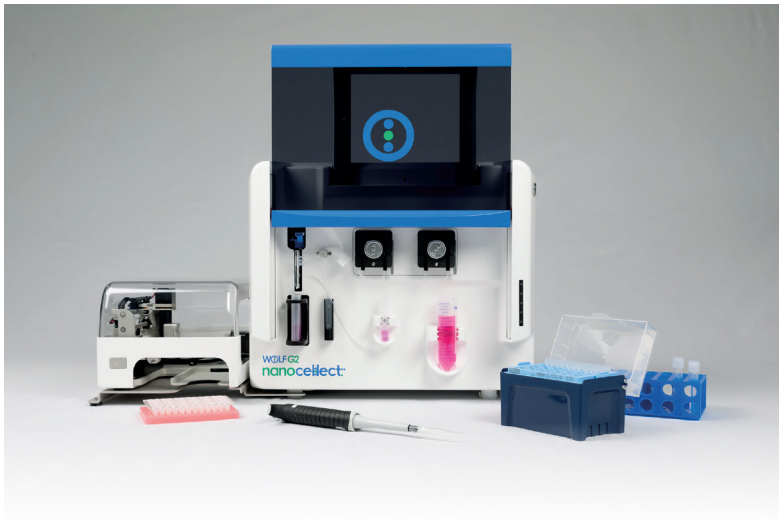
Healthy Cells. Better Science.

Cell Sorting made for every lab

Introducing the new NanoCellect WOLF® G2 Cell Sorter

The WOLF was originally created by a team of scientists and engineers who wanted to solve a classic challenge in biological research: how to sort cells effectively, easily, and of high quality. Now, as science continues to move forward into increasingly complex realms, the WOLF is moving forward with it.

The new WOLF G2 instrument has significantly expanded the capabilities of gentle benchtop microfluidic cell sorting with two lasers and up to nine colors, while maintaining simple workflows for either bulk sorting or single-cell dispensing. Single-cell sorting can be completed in 96- or 384-well plates when using the WOLF G2 in conjunction with the N1 Single-Cell Dispenser. This flexibility in performance, along with the additional abilities of the second laser, makes it ideal for use in many different research fields and application areas like single-cell genomics, cell line development, gene editing, antibody discovery, immunology, infectious disease, basic research, and more.



Microfluidic Cartridges

Unique to NanoCellect are disposable cartridges that allow for bulk sorting or single-cell sorting. The sorting cartridges use a piezoacoustic actuator that gently directs cells into collection channels; an embedded cell sorting verification system gives instant feedback of sorting accuracy. And because the cartridges are disposable, there is no chance of sample-to-sample contamination or biohazardous aerosols.

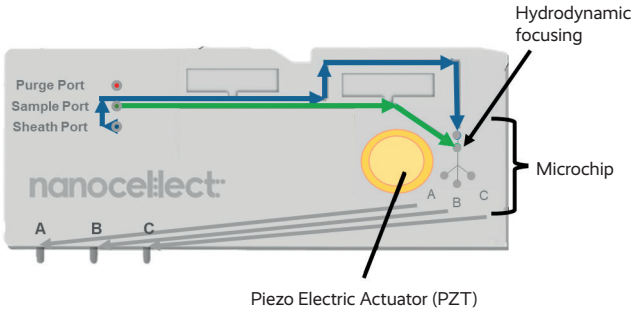


Figure: Sample solution (green line) and sheath fluid (blue line) travel through their own respective channels within the cartridge ultimately mixing at the microchip.

NanoCellect offers two types of cartridges. First for bulk sorting, the cartridge has 3 output channels that allow to sort 2 selected cell populations in the A and C channels while the remainder of the cells are collected in the B channels. The single-cell sorting cartridge is designed to work with the N1 Single-Cell Dispenser accessory to deposit 1 to 100 cells per well of a 96- or 384-well plate.

Cell sorting has never been so easy!

Healthy Cells

At < 2 psi, the WOLF G2 are gentler than any conventional cell sorters, enabling healthier cells post-sort, especially for engineered lines, primary cells, and stem cells.

High sensitivity and resolution

All laser configurations afford < 250 MESF sensitivity, along with forward and back scatter, providing as low as 1 µm resolution.

Compact and at your bench

At 2 cubic feet, NanoCellect's benchmark for access and performance allows every lab for the flexibility to do analysis and sorting into tubes or 96- and 384-well plates.

Simple and intuitive

Intuitive software, fixed optics, no fluidics cart and less than one minute clean-up time.

Contaminant- and biohazard-free

Disposable, aerosol-free microfluidic cartridge allows for sterile sorting that protects the sample from the environment and scientist from the sample.

Expanding the WOLF's capabilities

With two lasers and up to nine fluorescent channels, the WOLF G2 aligns with a broad set of research applications and experiments. Three different laser configurations allows options specific to your needs.

Healthy Cells. Broad Capabilities. Better Science.

Tired of Adapting your Experiment to the Vessels Compatible with your Sampler?

Introducing the Agilent NovoCyte Penteon™, Quanteon™ and Advanteon™

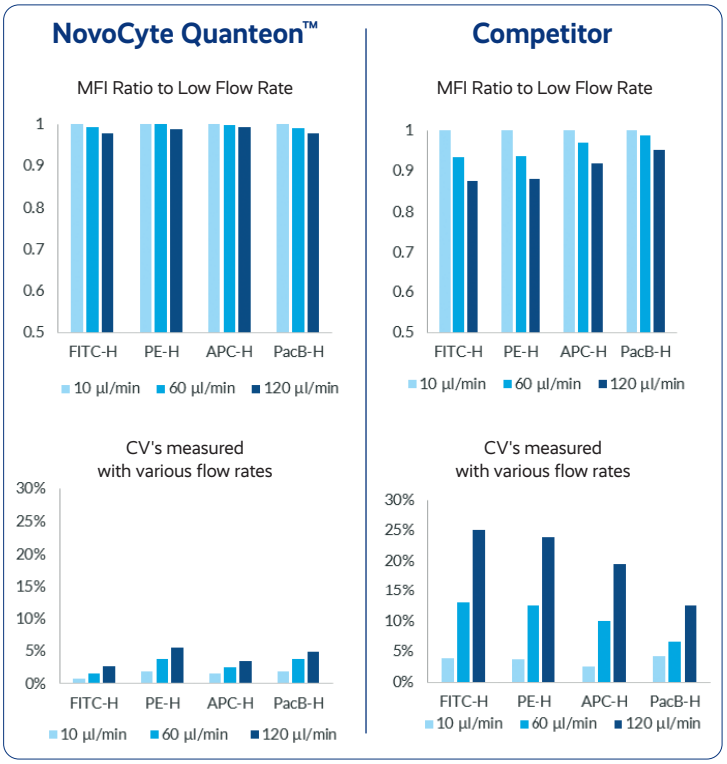
The NovoCyte Penteon™, NovoCyte Quanteon™, and NovoCyte Advanteon™ flow cytometers build on their successful predecessor, the NovoCyte, to provide an expanded set of capabilities that accommodate today's high-end and increasingly sophisticated multicolor flow cytometry assays. Scientists now have the flexibility to choose from up to 30 fluorescent channels utilizing 1–5 lasers with up to 30 independent detectors.
The NovoSampler Q™, which can be integrated into different laboratory automation platforms, efficiently processes both FACS tubes (using a 40-tube rack), Eppendorf tubes, and 24-, 48-, 96-, and 384-well plates. **It is the only sampler that adapts itself to your desired vessel type.** The intuitive and industry leading NovoExpress® software has been further advanced, providing an exceptional user experience in data acquisition, analysis and reporting.

Flow Cytometers with Exceptional Reliability:
Agilents NovoCyte Penteon, Quanteon and Advanteon

Walk-away Automation Simplifies Your Workflow

Easy startup & shut down: Quick startup with automated fluidic rinsing takes only minutes to prepare the instrument for your daily use. The configurable pre-scheduled shutdown thoroughly cleans at a specified time each day to eliminate the hassle of end-of-day manual cleaning.

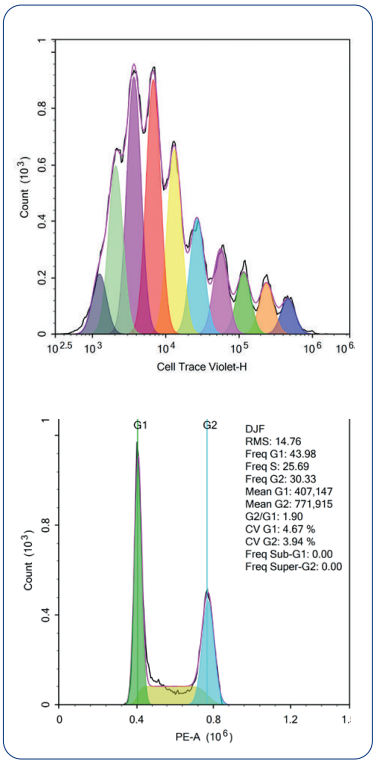
Embedded quality control: Quickly run daily QC, automatically generate comprehensive QC reports, and conveniently track performance over time with Levey-Jennings plots. The automatic QC test ensures proper performance monitoring on not only a day-to-day basis, but also over long-term use.



Continuously monitors fluidic levels for you: A fluidic station capable of sensing low fluid or high waste levels eliminates the need of manual inspection. Fluidics consumption is estimated before plate runs to ensure uninterrupted sample acquisition.

Hassle-free fluidics: Electronically monitored valves and sensors allow for automatic clog detection and recovery. A feedback control system continuously manages sheath flow rate to maintain great stability.

Consistent results, fast or slow: Equipped with high quality lasers, optical filters and detectors to ensure consistent signal detection, and combined with fluidic feedback control mechanisms to maintain steady flow rates, the NovoCyte systems are the flow cytometers you can always rely on.



NovoCyte Systems have demonstrated superior stability across a wide range of sample flow rates, a critical requirement for a high end flow cytometer to provide consistent results under variable operating conditions. The NovoCyte family gives you peace of mind so you can focus more on your experiments.

Advanced Data Analysis made easy by NovoExpress®

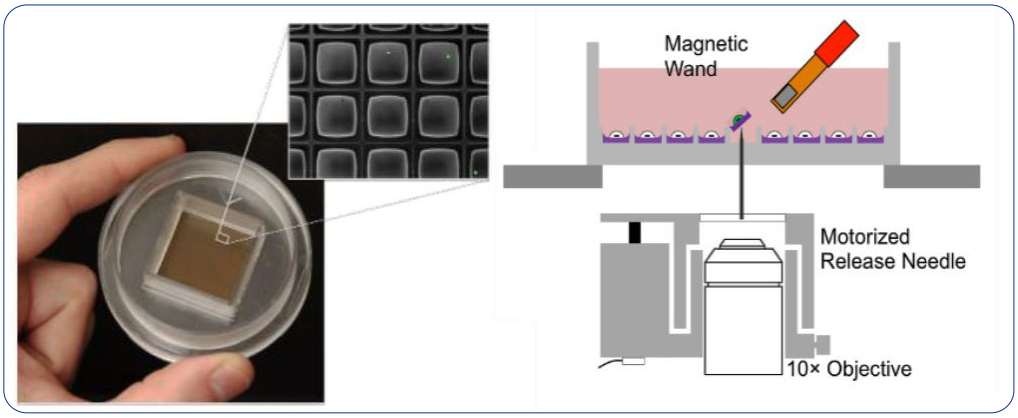
- Cell Proliferation Modeling
- New Cell Cycle Analysis Module
- Heat-map Data Display

Image – Sort – Isolate

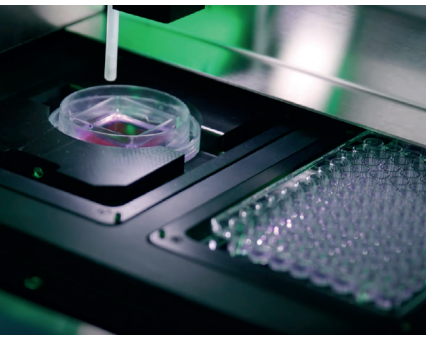
Single cell analysis with image-based sorting

Introducing the CellRaft AIR® by CELL Microsystems

Cell Microsystems has developed the CellRaft® AIR System to allow imaging-based cell sorting and isolation of single living cells prior to downstream analyses. The AIR System is a bench-top instrument comprising an internal microscope with both brightfield and three-channel fluorescent imaging capabilities.



CellRaft® AIR addresses two widespread challenges scientists are facing in single cell biology research: the ability to image, identify, and for isolation, actively select viable single cells or clonal colonies based on their phenotype.
The technology builds on a disposable microwell array on which cells are seeded and imaged. While the array can be handled as common culture plates with cells seeded in bulk and sharing the media, the bottom of this dish contains thousands of rafts to which cells will attach.



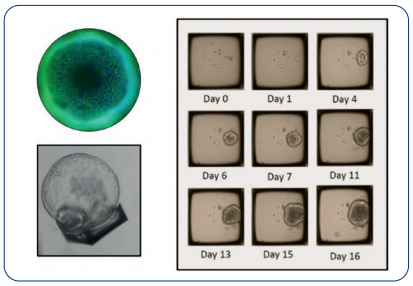
Upon imaging, the software allows either user-specified selection of cells to be collected as individuals or to automatically collect cells based on desirable characteristics according to fluorescent markers. Cells are isolated by moving the raft on which they are attached to and releasing the raft in a collection plate.

- **Lineage traceability** – ability to monitor clonal expansion from single cells and track lineage automatically over time
- **Brightfield image analysis** – no need to challenge cells with stains or dyes
- **Gentle on cells** – isolate cells and colonies without trypsinization to preserve native phenotypes and high viability
- Each disposable array contains thousands of microwells (1600 to 40,000 per reservoir depending on format)
- With the CellRaft AIR System, cells share a common culture medium, allowing them to continue to signal each other and share kinases and growth factors

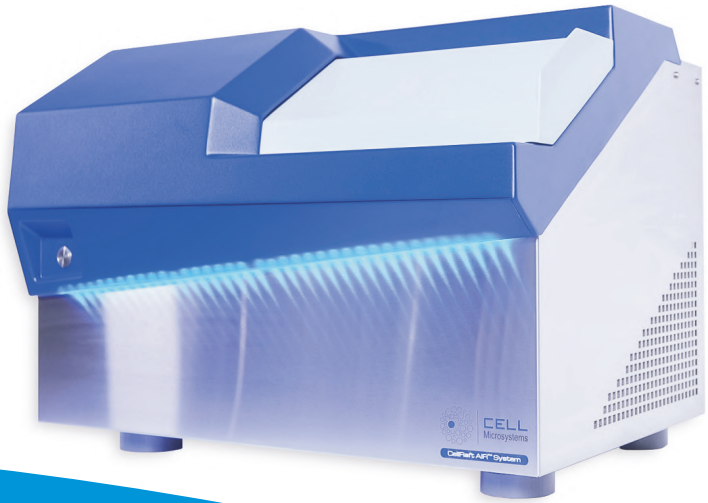
New! Cradle your organoids with the CellRaft AIR

- **Serial imaging over time**
- **On-array phenotypic assessment**
- **Automated isolation of intact 3D structure**
- **Isolate organoids at multiple timepoints**

Life science researchers can functionally and phenotypically characterize their cells in real time prior to isolation using a single consumable. Proven monoclonality with greater yields accelerates the path to drug discovery and new therapies.



Please contact us for a detailed application note on this exciting way of analyzing cytotoxicity in co-cultures.



Sectioning is Time. We Cut the Time!

Tissue Clearing for High-Resolution 3D Imaging

Logos Biosystems' X-CLARITY™

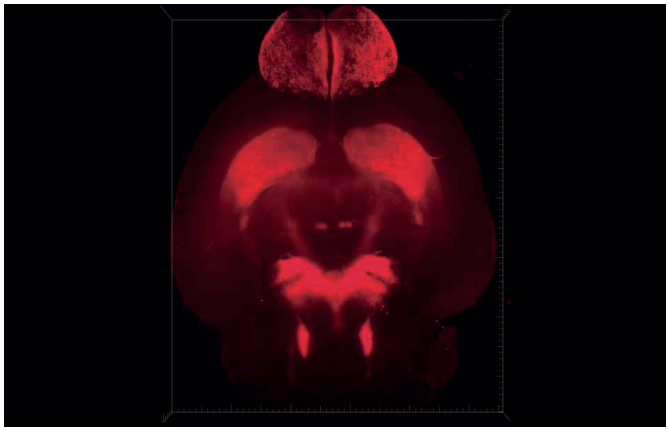
The X-CLARITY System is an all-in-one, easy-to-use solution for electrophoretic tissue clearing. Its unique design accelerates the removal of lipids from tissues while preserving the structural integrity of the sample.

Utilizing Electrophoretic Tissue Clearing (ETC), platinum-plated electrodes generate an electric field to accelerate the removal of lipids from tissues in a highly efficient manner. A built-in temperature control system actively cools and heats buffer to maintain consistent temperatures during clearing. Buffer is constantly circulated to ensure consistent buffering capacity, temperature control, and elimination of tissue clearing byproducts.

- **Precise temperature control**
  - Active buffer cooling and heating capacity
  - Sensitive and accurate temperature sensor
- **Compatible with multiple tissue types and sizes**
  - Electrophoretic and passive clearing
  - Holders of various sizes available
- **User-friendly setup**
  - Simple touchscreen interface
  - Ready-to-use clearing solution

DeepLabel™ Antibody Staining Kit

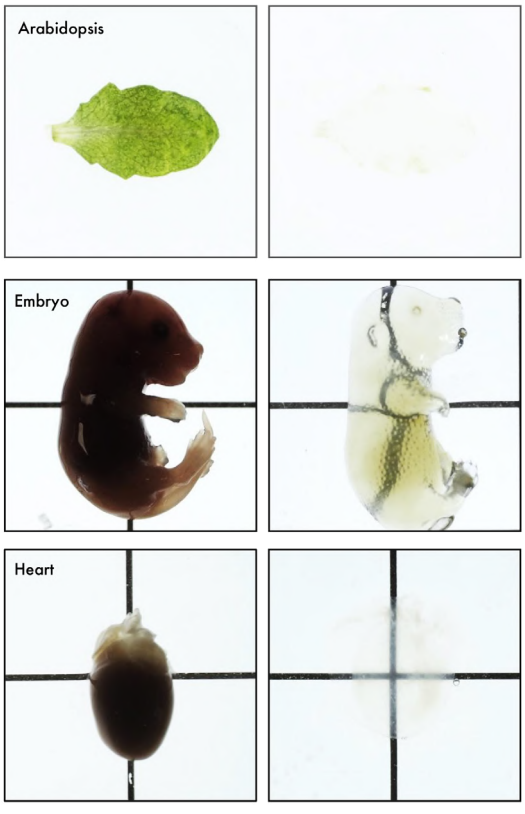
The DeepLabel Antibody Staining Kit is a set of non-toxic, ready-to-use reagents optimized for use with clarified tissues. With DeepLabel, macromolecular probes can rapidly and efficiently penetrate thick, protein-dense tissues for site-specific binding at lower antibody concentrations. DeepLabel facilitates homogenous antibody staining with 2.6x greater signal-to-background ratio than conventional staining methods. Use DeepLabel for vibrant fluorescence imaging at subcellular resolution. Compatible with virtually all antibodies and all cleared tissues, DeepLabel enhances antibody diffusion into cleared tissues.



Whole adult mouse brain stained using DeepLabel with anti-TH (red).

Accelerate your research with X-CLARITY!

X-CLARITY Tissue Clearing Samples

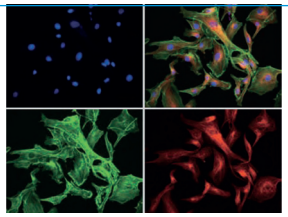


Multicolor Fluorescence Imaging and Data Analysis in one Device

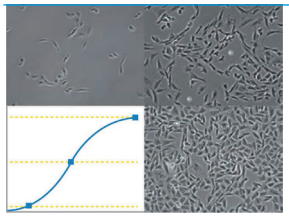
Logos Biosystems' CELENA® S Digital Imaging System

The CELENA S is a powerful digital imaging system that simplifies imaging and data analysis. Integrating advanced precision optics, a highly sensitive scientific grade CMOS camera, and a computer with user-friendly software, the CELENA S allows researchers to capture vivid, publication quality images with ease. Interchangeable objectives and filter cubes accommodate a wide range of imaging needs. Researchers can use the CELENA S for multiple applications, such as capturing and analyzing multicolor fluorescence images, live cell imaging, and automated cell counting.

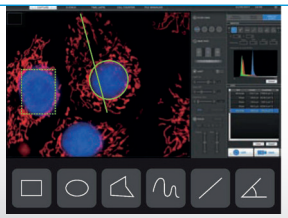
Are you curious to see the system or even better to see your cells or samples right on the system?



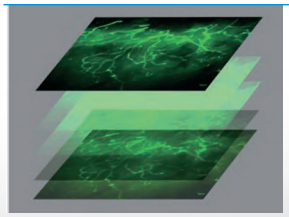
Multicolor Fluorescence and Brightfield Imaging
Long-lasting LEDs and hard-coated optical filters ensure robust fluorescence imaging. Adjustable LEDs allow precise control over the gain and intensity of transmitted light.



Live Cell Monitoring
Monitor live cells with the time lapse function or the growth monitor. Attach the onstage incubator to control the temperature, humidity, and CO_2 / O_2 levels.



Onboard Data Analysis
Analyze your images immediately upon capture. Save measurement data to a USB drive.



Z-stack Imaging
Capture multiple images along the Z-axis with the Z-stack function.

Automated High Content Imaging

Acquisition & Analysis for Drug Discovery & Cell Biology

Logos Biosystems' CELENA® X

The CELENA® X High Content Imaging System is an integrated imaging system designed for rapid, high content image acquisition and analysis. Customizable imaging protocols, image-based and laser autofocusing modules, and a motorized XYZ stage simplify well plate imaging and slide scanning. It is as flexible as powerful, with interchangeable objectives and LED filter cubes to accommodate a wide range of fixed and live cell imaging applications.

Applications:

- Cell-Based Assays
- Cell Counting
- Drug Discovery
- Histology
- Live Confluency Monitoring

Key Features:

- Easy to customize for microfluidic devices
- Fully automated image acquisition and analysis
- Rapid multi-well plate imaging
- Powerful cell based assay software package
- Area scanning & image stitching
- Z-stacking & focus merging
- Time lapse live cell imaging
- Whole slide imaging

We are looking forward to your call in order to discuss your specific application!

Solid Tissue Dissociation. Automated.

Single Cells or Nuclei from Solid Tissues in Minutes

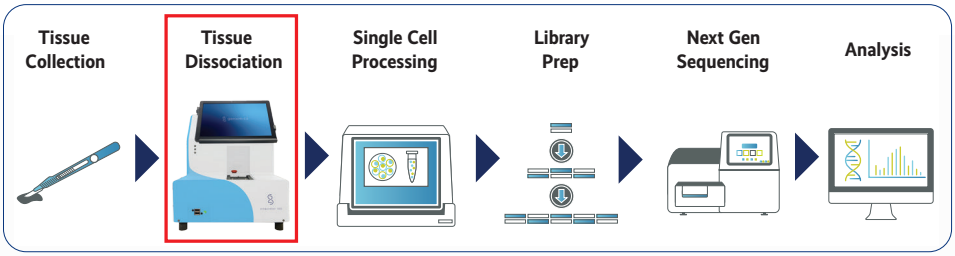
Introducing S2 Genomics' Singulator™ 100

The bench-top Singulator system and its single-use cartridges enable reproducible, rapid and hands-off tissue dissociations into single-cell or nuclei suspensions. Its ability to perform cold dissociation minimizes the expression of stress-related genes in cells and helps preserve RNA quality in nuclei. Researchers can easily obtain suspensions of nuclei or high-viability cells for a wide range of single-cell analyses.

Intuitive Software. Customizable Protocols.
Choose from a selection of pre-set protocols and pre-formulated reagents. Create your own protocols with customizable parameters, including mincing, enzyme incubation time, temperature, mixing and mechanical disruption profile. Optionally, use your own reagents.

Singulator 100
Key Benefits

Attribute		Benefit
Automated system	→	Reproducible performance
Disposable cartridges	→	No cross-contamination
Works on small samples	→	Biopsies, tissue slices, etc.
6°C or 37°C operation	→	Cold dissociations preserve RNA quality, prevent cell stress
Open platform	→	Custom protocols, reagents



Obtain consistent results, from researcher to researcher and lab to lab. Improve success rates for precious samples. Load tissue and press RUN in < 1 minute. Isolate single cells in 20-60 minutes or nuclei in 7-12 minutes.

Invitation to our Seminar Day on

Why Single Cells?

Bern, May 17th 2022

Join our free seminar and learn about new tools to isolate single cells (and nuclei) from tissues or the acoustic-based alternative to centrifugation for cell isolation and purification. See how to gently sort delicate cells by flow or how to isolate clonally expanded cells based on imaging.

Further we are going to talk about the impact of genetic signatures identified by DNA sequencing of single cells or their functional proteome and we expose you to the MerFISH technology. A day full of valuable information on latest developments towards the power of single cells, making your trip to Bern most rewarding and a pleasure.

Guest Speakers:

- **Keynote: Prof. Andreas Moor**, Lab for Systems Physiology, ETH Zürich D-BSSE
- **Sara Bragado Alonso**, PhD, Field Application Scientist, Isoplexis
- **George Emanuel**, PhD, Founding Member, Vizgen
- **Lara Lappara Cuervo**, PhD, Field Applications Scientist Europe, ONI
- **Jessica Hartmann**, PhD, Senior Director of Product Applications, Cell Microsystems
- **Simone Formisano**, PhD, Technical Application Liaison, Mission Bio
- **Paul Di Gregorio**, VP Commercial, NanoCellect

Participation is free of charge! In order to register simply give us a call (061 269 1111) or send us an email (seminar@bucher.ch)

Next Generation Cell Counters

The Champion's Way of Cell Counting. Because Time is Power!

Logos Biosystems' Luna™ Automated Cell Counter Series

The popular LUNA™ Family of Automated Cell Counters
This highly advanced product family of automated cell counters is used by highly satisfied researchers in numerous labs worldwide.

The **LUNA-II™ Automated Cell Counter** with unmatched speed, accuracy, and consistency of measurement, is a stand-alone instrument integrating precision microscopy optics, onboard computer, image analysis software, autofocus system, and built-in printer.

The LUNA-II automated cell counter accurately detects total/live/dead cells at concentrations ranging from 5 x 10^4 to 1 x 10^7 cells/mL and cell sizes between 3 and 60µm, using brightfield imaging.

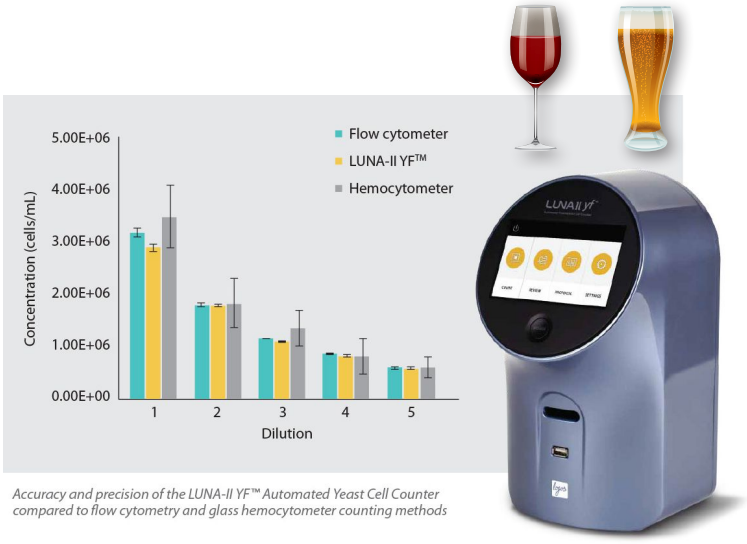
LUNA-FL™ Dual Fluorescence Cell Counting
A quantum leap for automated cell counting and cell viability analysis. The LUNA-FL automated cell counter gives you sensitive and accurate live/dead cell counting results without limitation of cell types.

The LUNA-FL inherited the proven performance of the LUNA Automated Cell Counter with the brightfield microscope optics and the powerful and accurate cell counter algorithm. The integrated dual fluorescence microscope optics of the LUNA-FL allows you to precisely stain live / dead cells and thereby exclude undesirable debris. Resulating in the most accurate cell counting experience ever!

All our cell counters are compatible with the reusable slide for sustainability.

Yeast Cell Counter LUNA-II YF™
Yeast counting has never been this fast and easy. The LUNA-II YF is a fully automated, image-based yeast cell counter. Dual fluorescence optics, an autofocusing liquid lens, and an advanced counting algorithm produce yeast cell count and viability data in just 15 seconds.

No more subjectivity and wasted time on manual cell counting. LUNA-II YF counts yeast cells stained with fluorescent nucleic acid dyes with the precision and consistency of a flow cytometer, but in a much shorter time.



Accuracy and precision of the LUNA-II YF™ Automated Yeast Cell Counter compared to flow cytometry and glass hemocytometer counting methods

Rapid and Accurate Single Bacteria Cell Quantification
The QUANTOM Tx™ Microbial Cell Counter is an image-based, automated cell counter that can count individual bacterial cells in mere minutes. The sophisticated QUANTOM cell counting algorithm is the first of its kind, capable of detecting individual bacterial cells regardless of their diverse morphologies and arrangements. Multiple images of fluorescence-stained cells are captured and analyzed automatically for rapid and accurate bacterial cell counts.

Please contact us in order to discuss your specific cell counting requirements.

SelectScience 2020 PLATINUM Seal of Quality

Every Cell Matters

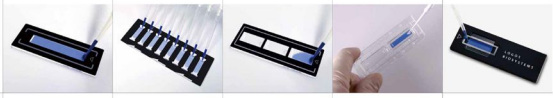
A Busy Bio-Lab needs an efficient Cell Counter

SCIENTISTS' CHOICE AWARDS 21 WINNER

Logos Biosystems' new LUNA-FX7™ Automated Cell Counter

Introducing the LUNA-FX7 - the automated cell counter that builds on the success of its predecessors. The LUNA-FX7 is our most powerful cell counter, with unmatched cell counting accuracy, a maximum counting volume of 5 µL (10 times that of conventional cell counters), all new optics, dual fluorescence and brightfield illumination, a fast and precise autofocus, and multichannel pipette-ready 8-channel slides to count up to eight sample simultaneously. To help monitor and optimize bioprocesses, the LUNA-FX7 has built-in quality control features and precision validation slides. 21 CFR Part 11-ready, the LUNA-FX7 improves the security and efficiency of your lab's workflow.

LUNA FX7™
Automated Cell Counter

	NEW				
	LUNA™ 1-Channel Slides	LUNA™ 8-Channel Slides	LUNA™ 3-Channel Slides	LUNA™ Cell Counting Slides / PhotonSlides™	LUNA™ Reusable Slides
Compatible slides					
Sample throughtput	1 sample	Up to 8 samples	Up to 3 samples	Up to 2 samples	1 sample
Sample loading volume	50 µL	10 µL / chamber	10 µL / chamber	10 µL / chamber	10 µL
Maximum analysis volume	5 µL	0.5 µL / chamber	1.3 µL / chamber	1.3 µL / chamber	1.3 µL

Unmatched cell counting accuracy

- All-new optics
- Increased counting volume for the lowest CV per count
- Multichannel pipette-compatible 8-channel slides
- Fast and precise autofocus
- More robust and sophisticated counting algorithms
- Customizable cell-detection protocols

Optimized for bioprocess production applications

- Quality control and validation software
- Range of standard validation slides

21 CFR Part 11 ready

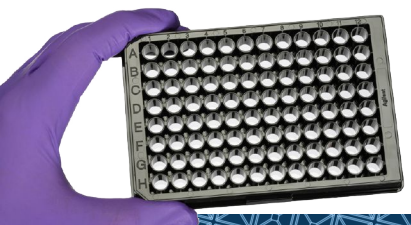
- User access and rights management
- Online data storage and control
- Encrypted electronic records

Optimized Microplate Solutions

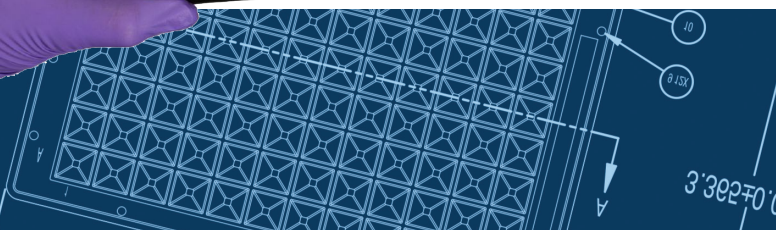
Microplates are the Currency of the Lab!

Agilent's standard and custom Microplate Solutions

Did you know that Agilent is a worldwide leader in the design and manufacturing of high-quality microplates for biological research and drug discovery?



Agilent provides standard and custom solutions for academic and government institutions and pharmaceutical and biotech organizations, as well as large and small OEM manufacturers of assay kits and lab instruments suppliers. All of Agilent's products are designed and built to obtain the highest quality results.



- Storage / Assay Microplates
- Filter Plates
- Reagent Reservoirs
- Customized Microplates – Tell us what you need!

Simply check the online Product Selection Tool via www.agilentmicroplates.com or contact us to receive a copy of the Agilent Microplate Solutions brochure.

Cell Separation Made Simple!

Isolate your specific cells without the need for centrifugation or Ficoll

Introducing the new MARS™ Platform by Applied Cells

The new MARS™ Platform: The only instrument to offer acoustic technology for sample preparation AND magnetic cell isolation technology for cell separation in one easy-to-use system.

With the MARS platform, Applied Cells developed a novel technology to standardize and automate cell preparation from complex samples such as whole blood, bone marrow or cancer tissue using an acoustic active-microfluidic chip to wash and remove red blood cells, debris, free dyes or other small particles. The proprietary method presents a unique advantage in enrichment of target cells, including rare tumor cells and immune cells with high recovery.

Cell Therapy
Modular systems automate cell processing and cell isolation in the development and manufacturing of cell-based drugs. MARS provides both high recovery and purity.

Tumor Biology
TIL, T Cells, NK cells, Neutrophils or Stem cells.

Genomics
Label-free, easy and fast enrichment of live single cells from samples including peripheral blood, bone marrow, solid tissue and many others.

The MARS experience offers:

- **Consistent and reproducible results**
- **High recovery AND high purity**
- **A matrix-free continuous flow system with virtually no loss of cells**
- **Rare cell isolation (1 in 5 million bone marrow cells)**
- **High sensitivity MRD (minimal residual disease) isolation**
- **Stem cell isolation**
- **T cell isolation**
- **TIL and tumor cell isolation**

The MARS family of instruments provides a breakthrough solution to complete the workflow of cell separation and enrichment. Our proprietary technology offers a unique advantage in the enrichment of target cells with high recovery, high purity and high reproducibility.

MARS CS

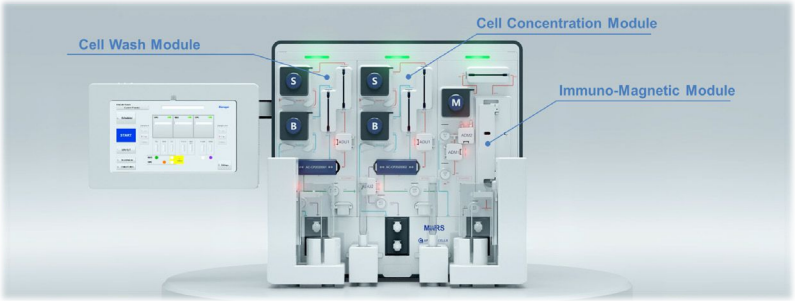
Acoustic modules for sample washing and concentration combined with the magnetic module for positive or negative cell selection

MARS BAR

Magnetic technology for positive or negative cell selection

MARS SP

Acoustic technology for cell washing and cell concentration

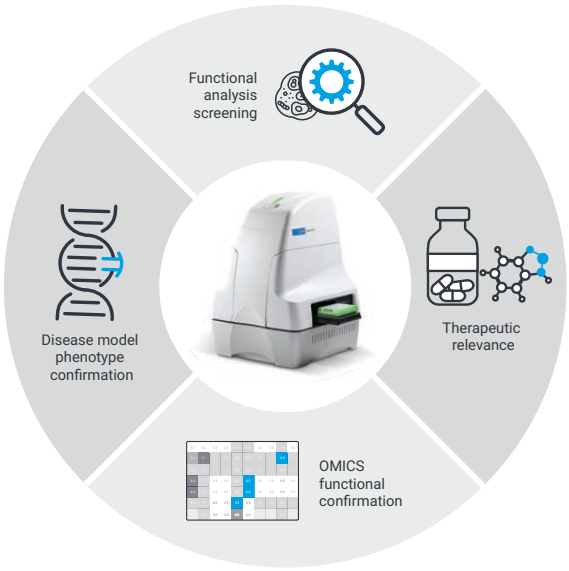


Confirm Therapeutic Relevance and Validate Your Target in Early Drug Discovery

Introducing Agilent's new Seahorse XF Pro Analysis Platform

Agilent Seahorse XF Pro analyzers measure the oxygen consumption rate (OCR) and extracellular acidification rate (ECAR) of live cells in a 96-well plate format. OCR and ECAR rates are key indicators of mitochondrial respiration and glycolysis as well as ATP production. Together, these measurements provide a systems-level view of cellular metabolic function in cultured cells and ex vivo samples.

With this recent expansion of the XF Analyzer suite, Agilent is in particular addressing the needs at pharma and biotech industry towards robust and sensitive systems to discover how live-cell metabolic measurements provide the additional insight needed to uncover novel drug targets and offer functional confirmation with increased certainty.



The Agilent Seahorse XF Pro advantage for early drug discovery

- Seahorse XF Pro delivers better precision and repeatability when generating XF data using standardized workflows to identify compound, target, pathway, or disease model therapeutic relevance.
- Gain confidence by confirming cellular function with repeatable and robust results to drive confidence when selecting targets to pursue.
- Easier to set up compound titrations to generate dose r esponse curves for fast determination of IC50/EC50 values.
- Confirm genomics and proteomics data where identification of up or down regulation of cellular metabolism pathways or genes can be validated.

UPCOMING EVENTS

Please visit us at these events:

- **Lausanne Genomics Days 2022**
  Univ. Lausanne, 16./17. June 2022
- **Cell Symposium: Translational Immunometabolism**
  ZLF Basel, 26.–28. June 2022
- **WIRM 2022**
  World Immune Regulation Meeting
  Davos, 6.–9. July 2022
- **Next Gen Organ-on-Chip & Organoids**
  Campus Biotech, Geneva, 23./24. August 2022
- **Swiss Physiology Meeting 2022**
  UniS of the University of Bern, 6. September 2022
- **ILMAC Lausanne 2022**
  Lausanne, 28./29. September 2022

SAVE THE DATE

- Invitation to our Seminar on
  Why Single Cells?
  Essentials for Scientists in Academia and Industry
  Bern, 17. May 2022

Enabling Exosome Discovery

Accurately Detect & Fully Characterize Extracellular Vesicles & Viruses!

Meet the new ExoView® R200 Platform from NanoView Biosciences

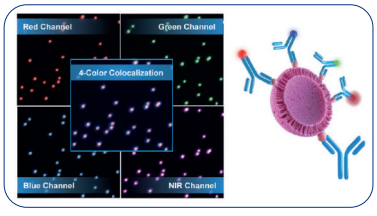
Another step forward in characterization in the extracellular vesicles (EV) field, the fully automated ExoView platform provides multi-level and comprehensive EV measurement of EV size, count, phenotype, and biomarker colocalization. The ExoView platform provides previously unattainable information in a single, bias- and purification-free workflow. ExoView R200 is an affinity-based technology that allows specific populations of EVs to bind in a multiplexed manner to a functionalized ExoView micro-array chip, using 35µL of sample volume only.

Characterize samples based on EV size distribution and count

ExoView quantifies EV sub- populations defined by surface markers. The platform counts EVs specifically, directly in the unprocessed sample and excludes any contaminants, enabling EV quantification without purification. Linear range spans 3 orders of magnitude. In addition, EVs as small as 50 nm in diameter can be analyzed with excellent peak-to-peak resolution in heterogeneous samples.

Characterize EVs based on unique protein signatures

NanoView Biosciences provides the ability to measure up to **5 markers on a single extracellular vesicle**. To assess protein expression profile, both surface and luminal markers can be measured, while the EVs are simultaneously counted and sized. Detect low-abundance proteins on the smallest EVs.

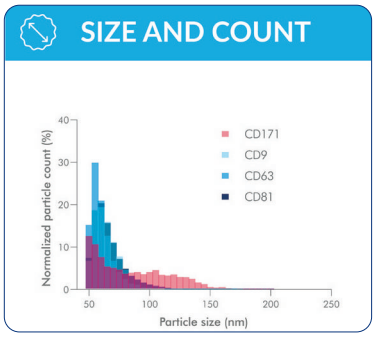


Sample Matrices

- Blood plasma
- Blood serum
- Cerebrospinal fluid (CSF)
- Cell culture with or without bovine EVs
- Saliva
- Urine Follicular fluid
- Synovial fluid
- many more...

Characterize EV subpopulations from multiple samples

In the ExoView workflow, EVs are captured on a microarray chip using antibodies. Subsequent EV permeabilization allows staining and probing of cargo proteins at the single-EV level. ExoView single-molecule sensitivity enables detection of even the smallest EVs with low protein expression.



Detect EV subpopulations from multiple samples

In the ExoView workflow, EVs are captured on a microarray chip using antibodies. Subsequent EV permeabilization allows staining and probing of cargo proteins at the single-EV level. ExoView single-molecule sensitivity enables detection of even the smallest EVs with low protein expression.

Custom antibody capture for detection of rare, disease-specific EVs

Use the universal **ExoFlex®-Kit** to utilize your own, proprietory antibodies against your protein of interest for the capture of **disease-specific EVs**. Characterize multiple populations of EVs from a single sample and benefit from automated washing, staining and analysis of up to **16 samples simultaneously**.

The fully automated instrument can measure complex samples without the need for purification, while reducing costs, saving time, and eliminating purification biases. The new chipwasher reduces hands-on time for 16 samples to under 5 minutes!

Introducing the new LentiView™-Kit

Working with lentiviruses? With the R200 you can easily:

- Measure virus particle titer
- Measure virus particle size
- Discriminate lentiviruses from contaminant extracellular vesicles
- Determine the ratio of lentiviruses with or without capsid proteins

Contact us in order to learn how the ExoView can help you identify unique EV populations.