



 bucher *Update*  
biotec

Bucher Biotec AG • Viaduktstrasse 42 • 4051 Basel • Phone 061 269 1111 • [www.bucher.ch](http://www.bucher.ch)

September 2019

the world's first desktop  
super-resolution microscope

**Nanoimager**



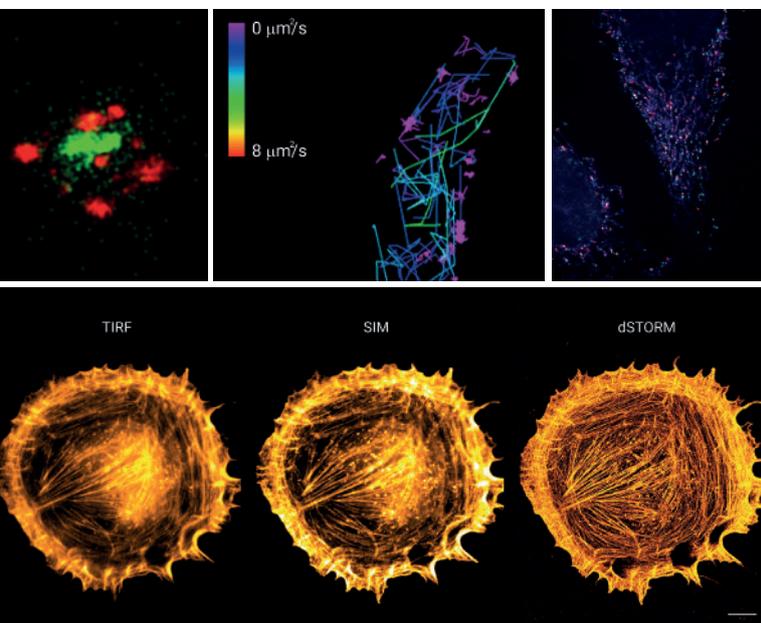
**ONi**

# The Power of Small

The best super-resolution microscopy experience.

## Meet the Nanoimager

The Nanoimager is the world's first, desktop-sized microscope capable of observing individual molecules within living cells. The Nanoimager offers various modes of operation including dSTORM, PALM, SIM, 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
- **SIM & Confocal**
  - Faster, easier super-resolution
  - Live and fixed samples
  - Wide selection of fluorophores
- **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

### Advanced Microscopy For All

The Nanoimager has been created by scientists, for scientists. It delivers the highest precision for single molecule and advanced imaging.

The Nanoimager delivers super-resolution applications dSTORM, PALM, SIM and single particle tracking with ultimate precision, even at 20 nm scale, by stabilising 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. The University of Cambridge, Harvard and Cancer Research UK are just a few of the users deploying the Nanoimager for diverse applications in microscopy.

### Interested in super-resolution microscopy?

Get in touch with us in order to discuss your specific interests (phone 061 269 1111 or [info@bucher.ch](mailto:info@bucher.ch)).

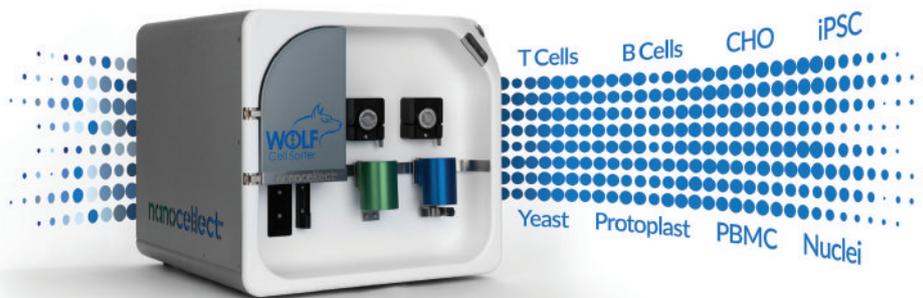
## Nanoimager Applications

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

# Happy Cells. Better Science.

Sterile, gentle microfluidics to analyze, sort and plate.

## Introducing the NanoCollect WOLF® Sorter and N1 Dispenser



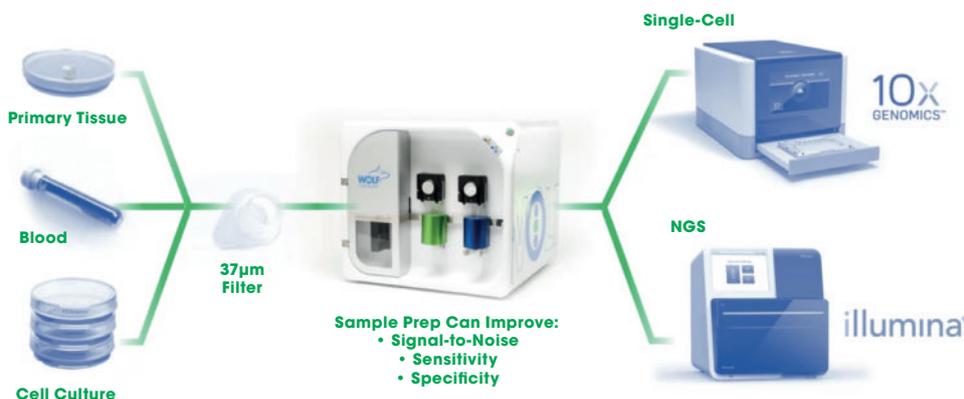
NanoCollect is advancing the status quo of flow cytometry to empower scientists with **more viable cells, no sample-to-sample contamination, and efficient workflows.**

With modern and easy-to-use technologies for cell-based assays and a software designed from a user's perspective, NanoCollect's WOLF® Cell Sorter enables scientists to analyze and sort cells required for drug discovery, diagnostics, and basic research.

- **High viability – ideal for fragile samples due to the gentle way of sorting**
- **Sterile microfluidics**
- **Small footprint (fits into laminar flow hood)**
- **Cell culture medium as sheath fluid**

Whether you're aiming to simplify your genomic sample prep, avoid karyotype issues with your CRISPR modified cells, or want to sort single cells or bulk populations for a myriad of applications, the WOLF® is designed to help you push your research forward.

### Simplified Sample Prep and Higher Quality Results



Selecting and enriching only the living target cells of interest using the gentle WOLF® cell sorter. Avoid the hassle to sequence and analyze dying cells, debris, and not target cells

NanoCollect developed an entirely new type of cell sorter based on microfluidic sorting technology. The WOLF® uses an **on-chip piezoacoustic actuator that gently directs cells into collection channels.** This unique system allows cell analysis and sorting to take place **within a disposable cartridge**, which eliminates sample-to-sample contamination, biohazardous aerosols and minimizes the amount of sheath fluid needed per run. This sheath fluid can even be cell culture medium for improved viability of your target cells.

Moreover is this sorting mechanism much gentler compared to conventional sorters. The latter can exert substantial mechanical irritation to cells, reducing viability, genomic integrity, and phenotypic reliability. A gentler way to sort is crucial for materials such as primary cells, plant protoplasts, or embryonic cells, where the WOLF® will sort healthier cells and achieve higher outgrowth rates.



The companion unit to the WOLF®, the N1, dispenses or sorts single cells into 96- or 384-well plates. After sorting, data from each cell is indexed well-by-well, allowing for confirmation of the plated cell.

The WOLF® and N1 offer 2-way sorting with 5 parameters, including 3 fluorescent channels, forward and side scatter. These provide better discrimination of singlets compared to cell printers or limiting dilution. Coupled with sterile microfluidics, easy-to-use design and software, fluidic flexibility, **cartridge-based sample loading, and less than one minute clean-up time**, the technology is ideally suited for genomic sample prep, gene editing, cell line development, and a variety of other applications requiring single cell isolation.

**Cell sorting has never been so easy!**

In order to schedule an appointment and an onsite demo simply contact us by phone (061 269 1111).

# Advancing the Boundaries of Benchtop Flow Cytometry

## Introducing the NovoCyte Quanteon™ and Advanteon™



The recently introduced NovoCyte Quanteon™ and 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 multi-color flow cytometry assays. Scientists now have the flexibility to choose from up to 25 fluorescent channels utilizing **1-4 lasers** with up to **25 independent detectors**. The NovoSampler Q™, which can be integrated into different laboratory automation platforms, efficiently processes both **FACS tubes (using a 40-tube rack) and 24-, 48-, 96-, and 384-well plates**. The intuitive and industry leading **NovoExpress® software** has been further advanced, providing an exceptional user experience in data acquisition, analysis and reporting.



ACEA Biosciences' NovoCyte Quanteon™  
A Flow Cytometer with Exceptional Reliability

### Walk-away Automation Simplifies Your Workflow

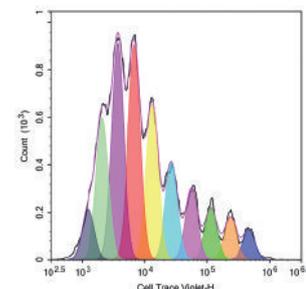
**Easy startup & shut down:** Quick startup with automated fluidic rinsing takes only minutes to prepare the instrument for your daily use. The configurable pre-scheduled shutdown thoroughly cleans at a specified time each day to eliminate the hassle of end-of-day manual cleaning.

**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.

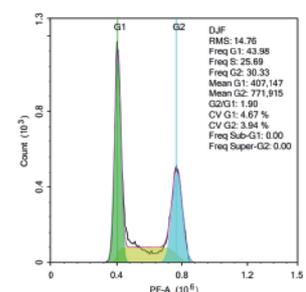
**Continuously monitors fluidic levels for you:** A fluidic station capable of sensing low fluid or high waste levels eliminates the need of manual inspection. Fluidics consumption is estimated before plate runs to ensure uninterrupted sample acquisition.

**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 Quanteon™ and Advanteon™ are the flow cytometers you can always rely on.

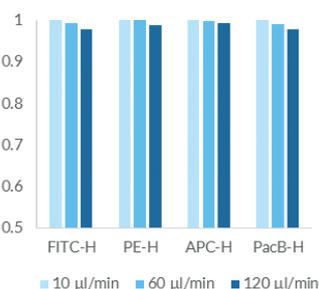


They have demonstrated superior stability across a wide range of sample flow rates, a critical requirement for a high end flow cytometer to provide consistent results under variable operating conditions. The NovoCyte Quanteon™ and Advanteon™ give you peace of mind so you can focus more on your experiments.



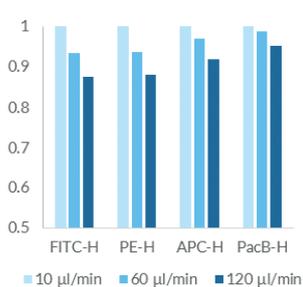
### NovoCyte Quanteon™

MFI Ratio to Low Flow Rate

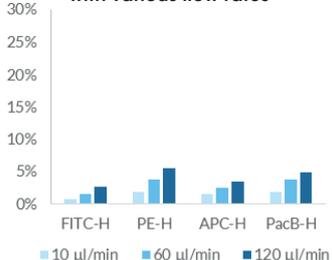


### Competitor

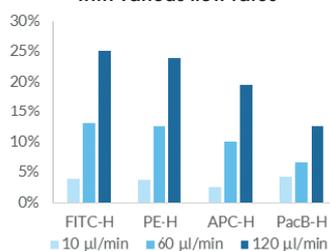
MFI Ratio to Low Flow Rate



CV's measured with various flow rates



CV's measured with various flow rates



### Advanced Data Analysis Made Easy By NovoExpress®

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

In order to discuss your specific application simply give us a call (061 269 1111) or send us an email ([info@bucher.ch](mailto:info@bucher.ch)).

# Optimize, Analyze, Visualize. Realize... Faster!

## Meet the new IntelliCyt® iQue3

The IntelliCyt platform converts flow cytometry into a true high-throughput method by sampling only microliters from each well, analyzing 96-well plates in as little as 5 minutes, and 384-well plates in 20 minutes. By reducing sample volumes to few microliters only, the IntelliCyt platform is saving reagent costs and conserving precious samples. With 7 logs of dynamic range in 13 fluorescent channels, it is ideal for multiplexing and allows sensitive cell analysis and bead-based quantification of up to 30 secreted proteins. All at the same time, in the same sample, from the same well.

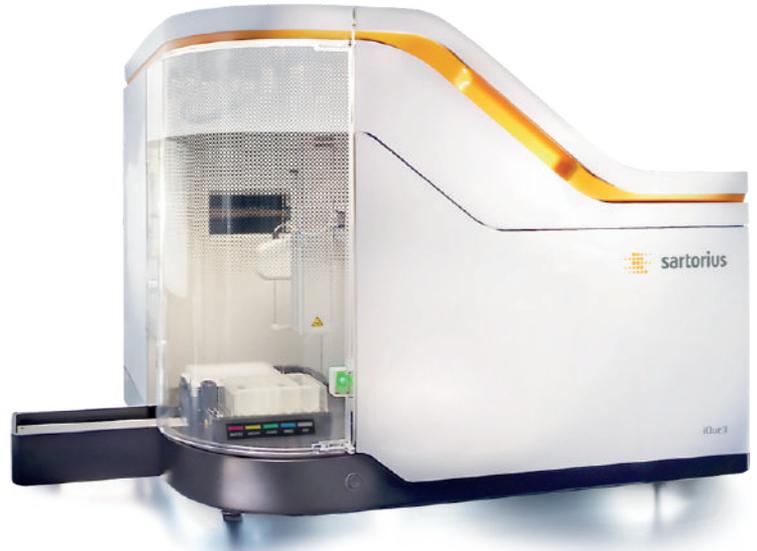


**Meet the new iQue3.** The most advanced flow cytometry platform with a focus on speed from setup, to acquisition, and analysis. To get you from samples to actionable results in record time.

With its patented sampling method, the iQue3 acquires your samples faster than any other flow cytometer. To complement the screening capabilities it enables continuous plate loading through connection with any automation system. Furthermore, **a new Enhanced Rinse Station (ERS)** has been incorporated in the iQue3.

### iQue3 Features:

- 48-hour uninterrupted run time before replacing reagent cartridges
- Intelligent software monitoring of rinse station fluid levels
- Warnings for missing, low, and even user defined volume levels
- Automated vortexing just prior to sampling for improved Q.C. results
- Improved reagent cartridges with less evaporation and the ability to easily close and store if needed
- 1µl sampling volume
- 96-wells in 5min, 384 in 20min
- 3-laser, 13 fluorescent channels



The IntelliCyt iQue3 comes as a complete solution to your lab. The integrated ForeCyt software addresses the analysis bottlenecks associated with multi-parametric information generation by enabling rapid data visualization and interpretation.



Tools such as profile maps, auto-generated IC50/EC50 curves, and analysis templates do the analysis for you at the end of the run. Optimized application-specific reagent kits with robust mix and read protocols for cell- and bead-based applications provide an integrated solution enabling high content, high throughput screening for deeper insight into complex biology.

### IntelliCyt makes the difference!

Contact us for a demo in your lab (061 269 1111)!



“The iQue Screener PLUS has greatly facilitated our work in the development of a personalized immunotherapy for AML and MDS patients.”

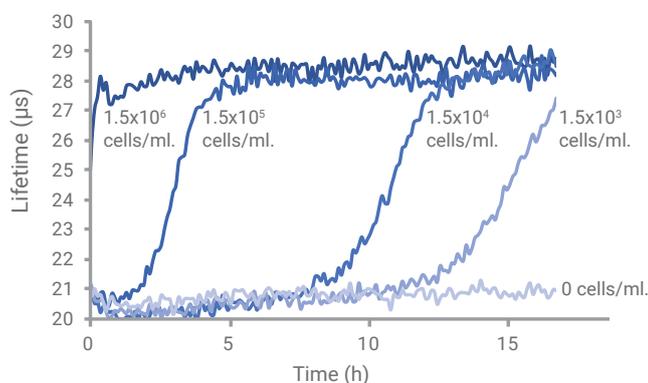
– Alison Tarke, Research Scientist, PersImmune

# Measure Microbial Proliferation

## Screen antimicrobial compounds

### Agilent MitoXpress Xtra Oxygen Assay Kit

The MitoXpress Xtra Oxygen Consumption Assay harnesses your plate reader and facilitates simple and convenient probing of microbial oxygen consumption and can be applied to the analysis of bacteria and yeast. The metabolism and growth implications of treatments such as drug exposure, genetic manipulation or altered culture conditions can be easily accessed. The assay can detect antimicrobial activity and provides the throughput and resolution necessary for screening and generating IC<sub>50</sub> or MIC data.



*C. albicans* oxygen consumption profiles measured at decreasing seeding concentrations ( $1.5 \times 10^6$ ,  $1.5 \times 10^5$ ,  $1.5 \times 10^4$ ,  $1.5 \times 10^3$  and 0 cells/ml).

The MitoXpress Xtra Assay can be used to provide a rapid assessment of bacterial growth without the need to conduct multiple sample dilutions and lengthy agar-based investigations. As bacteria in the test sample grow and respire, they deplete O<sub>2</sub>, which is detected as an increase in MitoXpress Xtra probe signal above a baseline threshold level.



The included report generator automatically calculates the oxygen consumption rates from this increase. Short term analysis allows the assessment of immediate effects on cell metabolism, while longer term analysis facilitates analysis of cell growth and metabolism.

**Please contact us for more information on this new reagent kit and how it can help to improve your assays. (phone 061 269 1111 or email [info@bucher.ch](mailto:info@bucher.ch)).**

# 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?

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

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.

Simply check the online Product Selection Tool via [www.agilentmicroplates.com](http://www.agilentmicroplates.com) or contact us to receive a copy of the Agilent Microplate Solutions brochure.



# The Agilent Seahorse XF Advantage

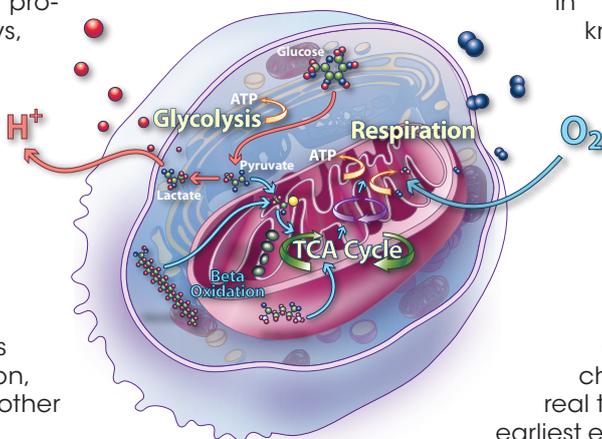
## Measure True ATP Production Rates or Glycolysis

### Agilent Seahorse XF Analyzer, Reagents and Kits

In order to truly understand your cells, you need to measure what matters. Cellular energy metabolism is a fundamental driver of cell phenotype and function. This energy is generated in the form of ATP through glycolysis and/or mitochondrial respiration. Seahorse XF analyzers simultaneously measure this proton efflux (ECAR or PER) as well as mitochondrial  $O_2$  consumption rate (OCR) to deliver a live-cell bioenergetic profile.

#### The Seahorse XF Real-Time ATP Rate Assay

The Seahorse XF Real-Time ATP Rate Assay quantifies the rate of ATP production from both pathways, glycolysis and mitochondrial respiration, simultaneously in live cells and in real time. Assays that measure total ATP levels do not provide this dynamic information regarding cellular activities and energy demand. The ATP production rate assesses the interplay between energy metabolism and cellular functions in response to gene modification, compound exposure and/or other types of interventions.

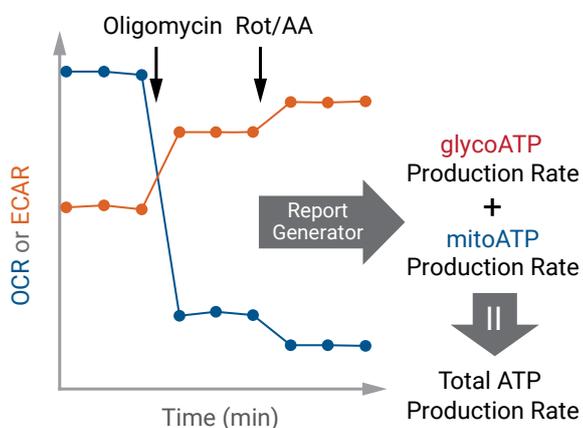


#### The Seahorse XF Glycolytic Rate Assay

Activation of the glycolysis pathway in oxygen-abundant conditions, known as the Warburg effect, is associated with a variety of normal as well as disease-related cellular functions such as proliferation, immune cell activation, and cancer. Unlike bulk acidification or endpoint lactate assays, the Agilent Seahorse XF Glycolytic Rate Assay is specific for glycolytic acidification and enables researchers to detect changes in metabolic function in real time, providing a window on the earliest events of metabolic switching.

#### Key features:

- Quantify ATP production rates from glycolysis and mitochondrial respiration
- Understand the energy mechanisms driving cell behavior and function
- Information beyond endpoint ATP level assays
- Generate real-time kinetic data from live cells



Representative scheme of the Agilent Seahorse XF Real-Time ATP rate assay. This assay provides quantitative measurements of ATP production rate from both mitochondrial and glycolytic pathways. Both OCR and ECAR of live cells are simultaneously measured using the Agilent Seahorse XF Analyzer. Using standardized control compound injections and data analysis, cellular ATP production rates are reported.

#### Key features:

- Glycolytic rate data that reveal cellular activity in real time, improving detection of subtle changes between conditions
- Measures and subtracts mitochondrial-related acidification
- Validated against lactate accumulation assays
- Mitochondrial respiration rates from the same well, enabling detection of metabolic switching



**Get the most out of your Agilent Seahorse XF Analyzer!**

Please contact us in order to discuss your specific interest or in order to arrange for a demo ([info@bucher.ch](mailto:info@bucher.ch)).

# Flow Induced Dispersion Analysis

## 360° Immunogenicity Data with True Native Testing

### Introducing the FIDA Analyzer

The FIDA Analyzer is a versatile automated instrument offering **rapid and precise information on binding and concentration of proteins, antibodies and other biomolecules** related to the development of biopharmaceutical drugs.

Contrary to most other procedures, the FIDA methodology is **based on binding in homogenous solution**; complications related to non-specific surface adsorption are therefore avoided. The unique features of the FIDA Analyzer enable characterization and quantification in native environments, built-in assay quality control and walk away automation.

#### Detection in native conditions

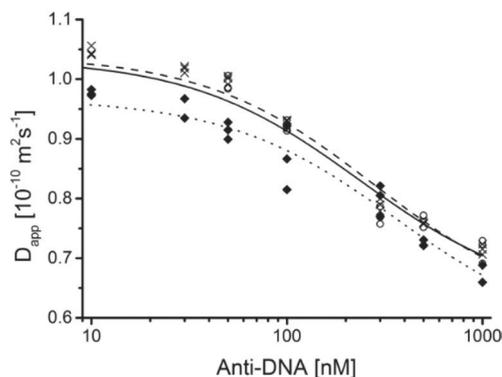
FIDA provides a high tolerance to matrix effects. When the relevant assay has been identified, it can typically be applied across different sample matrices including plasma or serum. **FIDA is based on direct detection in solution**. The technology is essentially calibration free and there is no need for fixation of ligands (such as antigens) to a solid surface.

#### Sensitivity

- Quantification: high pM to mM
- Dissociation constants: pM - mM
- Complex sizes: 1 - 300nm

#### Built-in quality control - high level of robustness

In addition to providing affinities and concentrations of proteins, the FIDA technology also provides info on the absolute amount of ligand (indicator molecule) and size of complex. These parameters are used for internal quality control as they provide information on potential changes in the 3D structure, precipitation, formation of aggregates, or non-specific adsorption to the capillary wall.



Binding curves for the interaction between DNA-I and the monoclonal antibody against dsDNA in 100 mM phosphate buffer, pH 7.9, (open circles, protocol I), 20% (v/v) human plasma (crosses, protocol II), and 85% (v/v) human plasma (black diamonds, protocol III). Affinity constant as a result of fitting:

$K = 4.24 \times 10^6 \text{ M}^{-1}$  (0% plasma, solid line)  
 $K = 3.60 \times 10^6 \text{ M}^{-1}$  (20% plasma, broken line)  
 $K = 2.76 \times 10^6 \text{ M}^{-1}$  (85% plasma, dotted line)

*Poulsen et al., Anal. Chem. 2016, 88, 9056-9061*



#### FIDA TECHNOLOGY

Detection under native conditions



#### APPLICATIONS

Commanding immunogenicity



#### RESEARCH FOCUS

Drug development and post launch safety



#### PRODUCTS

Easy protocols - results within 5 minutes.

#### Ability to work with small sample volumes and recovery of sample

Thanks to the thin capillaries used to conduct the FIDA assay, the total sample volume consumption is a few nL to 7µL. Samples can be loaded in a 96 well plate or in vials with temperature control on the sample holder and in the capillary. Sample void volume can be recovered.

**Please contact us via [info@bucher.ch](mailto:info@bucher.ch) in order to obtain detailed information on the FIDA technology.**

# 360° IMMUNOGENICITY DATA WITH TRUE NATIVE TESTING

# True Predictive Medicine

## Faster, Better, More Biologically Relevant Cells

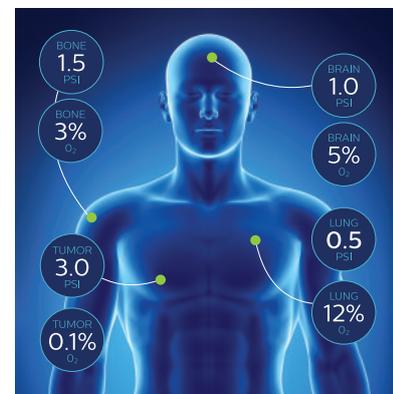
### The AVATAR™ Cell Control System

Tissues in the human body are both hypoxic and pressurized. They are made up of diverse micro environments that influence the behavior and molecular profiles of cells.

Standard incubators often perform poorly when tasked with keeping primary cells alive and thriving in culture. These systems control for temperature and CO<sub>2</sub>, and are tailored for cell lines acclimated to this environment. Cells in the body are exposed to a dramatic gradient of oxygen and fluid pressures ranging from a highly pressurized, hypoxic tumor environment to the high pressure shear forces of the blood. Whether you're modeling the immunosuppressive tumor microenvironment, or looking for a

condition to drive expansive growth, **fine control of oxygen and external pressures** are a powerful tool for primary cell optimization.

Demand for new immune cell therapies, such as CAR-T, has far outpaced the tools to develop and validate them. Modeling primary immune and tumor cell functional interactions under a tumor microenvironment can ensure optimal efficacy and persistence in vivo.



Using the **AVATAR™ Cell Control System**, environmental control enables modeling of phenotypic changes that affect target validation and lead characterization for potential cell therapies.

In order to schedule an appointment and an onsite demo simply contact us by phone (061 269 1111).



#### Why would you culture any cells from the blood at 21% O<sub>2</sub> and atmospheric pressure?

The **AVATAR™ Cell Control System** enables you to mimic the human condition by controlling both oxygen and pressure. It is ideal for immunotherapy applications enabling cell growth and expansion tailored for a specific cell source.

#### The AVATAR™ Cell Control System works with a variety of cell types including:

- Immune Cell Expansion (T-cells, NK-cells, macrophages)
- Stem Cells (iPSCs, NPCs, Cardiomyocytes)
- Tumor Cells and Organoids (2D and 3D)

#### The AVATAR™ Cell Control System Includes:

1. Tumor/tissue dissociation buffers
2. Serum-free culture medium
3. Expert-backed protocols
4. Pressurized-hypoxic systems

## Upcoming Events

### Please visit us at these events:

- **Bucher Biotec AG Lunch'n Learn on All the "FACS" about Flow Cytometry Latest Advancements of Analysis and Sorting**  
Univ. Zürich, 21. August 2019  
EPFL Lausanne, 22. August 2019  
DBM Basel, 26. August 2019
- **Swiss Physiology Meeting 2019**  
Univ. Bern, 3. September 2019
- **Basel Life / MipTec 2019**  
Congress Center Basel, 9. - 12. September 2019
- **Bucher Biotec AG Agilent Seahorse Cell Analysis Seminar Tour**  
Basel, Zürich, Bern, Lausanne
- **Festival of Biologics 2019**  
Congress Center Basel, 15. - 17. October 2019
- **Annual Meeting of the Platform for Stem Cells in Regenerative Medicine**  
Univ. Bern, 8. November 2019
- **2nd Swiss Cytometry Meeting 2020**  
Lausanne, 5. - 7. February 2020
- **LS2 Annual Meeting 2020**  
Univ. Zürich Irchel, 13. / 14. February 2020

# Next Generation Cell Counters

Count Cells like a Champion. 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.

#### LUNA-II™ Automated Cell Counter

The most advanced cell counter with unmatched speed, accuracy, and consistency of measurement. It 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  $5 \times 10^4$  to  $1 \times 10^7$  cells/mL and cell sizes between 3 and  $60\mu\text{m}$ , using brightfield imaging.



#### Seal of Quality Award

Logos Biosystems has been awarded the SelectScience® Bronze Seal of Quality for the LUNA™ family of automated cell counters. The award was presented by SelectScience at a special awards reception during AACR 2019 in Atlanta, Georgia, USA. The SelectScience Seal of Quality is given to top-rated products that meet specific criteria based on the number and average rating of user reviews. This makes the LUNA family the first cell counters to receive a Seal of Quality for customer satisfaction.

The LUNA-II™ received numerous enthusiastic reviews!

Prof. Alejandro Ocampo of the Univ. of Lausanne said:

*"This is by far the best instrument in its category. Reliable and reproducible results. Easy to use."*



#### 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 allow you to precisely stain live / dead cells and thereby exclude undesirable debris. Resulting in **the most accurate cell counting experience ever!**

**LUNA-FL™ = LUNA™ + Dual Fluorescence**



#### 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.

In order to discuss your specific needs simply give us a call (061 269 1111).

# Sectioning is Time. We Cut the Time!

## Tissue Clearing for High-Resolution 3D Imaging

### Logos Biosystems' X-CLARITY™

The X-CLARITY™ Tissue Clearing System II 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.

- **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

In ETC (electrophoretic tissue clearing) mode, 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 buffer temperatures during clearing. Buffer is constantly circulated to ensure consistent buffering

capacity, temperature control, and elimination of tissue clearing by products.



### DeepLabel™ Antibody Staining Kit

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.**

### Accelerate your research with X-CLARITY™!

In order to schedule an appointment and an onsite demo simply contact us by phone 061 269 1111.

# 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 autofocus 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.

#### Key Features:

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



#### Applications:

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

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

We are looking forward to provide more information and arranging for an onsite demo of the CELENA® X.

# Next Generation Single Cell Analysis

## For Biopharmaceutical Discovery and Development

### Sphere Fluidics' CytoMine® Platform



The challenge in biopharma is to screen large cell populations for antigen-specificity, productivity or other parameters, and then isolate rare cells with confidence of clonality.

Cyto-Mine® has been developed to shrink the whole cell screening and cloning process into a single system to accelerate and simplify your workflow. Traditionally, different items of equipment would be required for the selection, isolation and cultivation of a single cell from a mixed population, resulting in a costly and time-consuming process that uses up valuable lab space and increases risk of sample contamination.

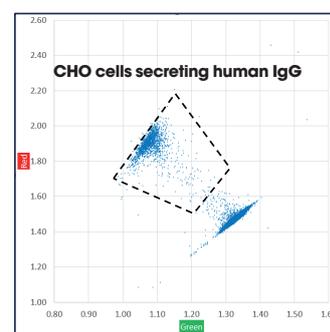
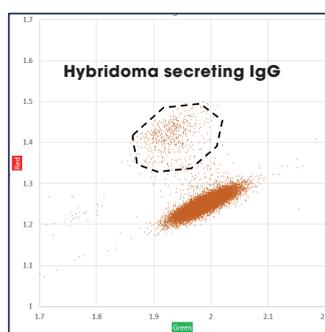
**Sphere Fluidics' Cyto-Mine® technology is the first integrated device to automatically perform all of these crucial techniques in a single compact system.**

- High-throughput single cell encapsulation
- Incubation followed by protein secretion assays
- Rapid cell sorting
- Dispensing of 'hit' single cells into individual microtiter plate wells
- Monoclonality assurance

#### Why choose the Cyto-Mine® Single Cell Analysis System?

This high-throughput instrument uses picodroplet technology and microfluidics to process around 1 million heterogeneous mammalian cells in less than half a day. Each cell is encapsulated in a picodroplet con-

taining growth media, which acts as a bioreactor to compartmentalize the cell. Cell cultivation within the droplet then allows rapid selection for secreted molecules such as antibodies. The unique workflow enables selective screening of single cell "hits" to find rare lead candidates. **Hit selection is handled flexible, e.g. antigen-specific or isotype-specific selection, combined with expression level of the targets.**

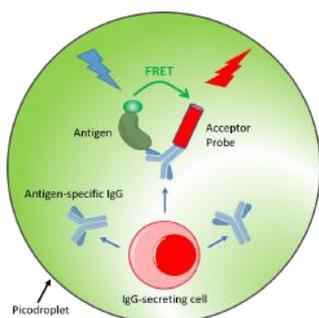


Typical scatter plots of FRET signal from individual picodroplets. Antibody secretion assays from single Hybridoma (left), or CHO cells (right) encapsulated in picodroplets.

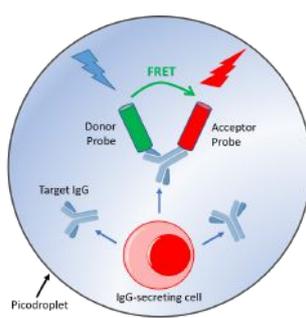
#### Cyto-Mine® Benefits:

- Cell integrity protected through gentle encapsulation and processing
- Cells maintained in preferred medium throughout run
- All processing steps undertaken at low temperature
- End to end sterility with disposable consumables
- Animal Origin Free reagents eliminate contamination risk
- Robust outgrowth of clones in wells post-dispensing

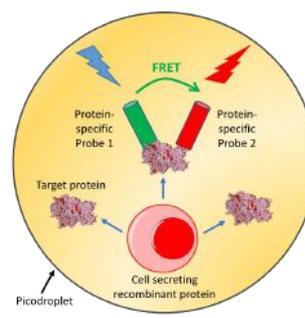
**Please give us a call (061 269 1111). We are happy to discuss with you your specific requirements.**



- Antigen-Specific Assay:**
- Hybridoma Fusion Screen
  - B Cell Mining



- IgG Secretion Assay:**
- Productivity Screen



- Customized Assays:**
- Functionality
  - Post-Translational Modifications
  - Reporter Assays