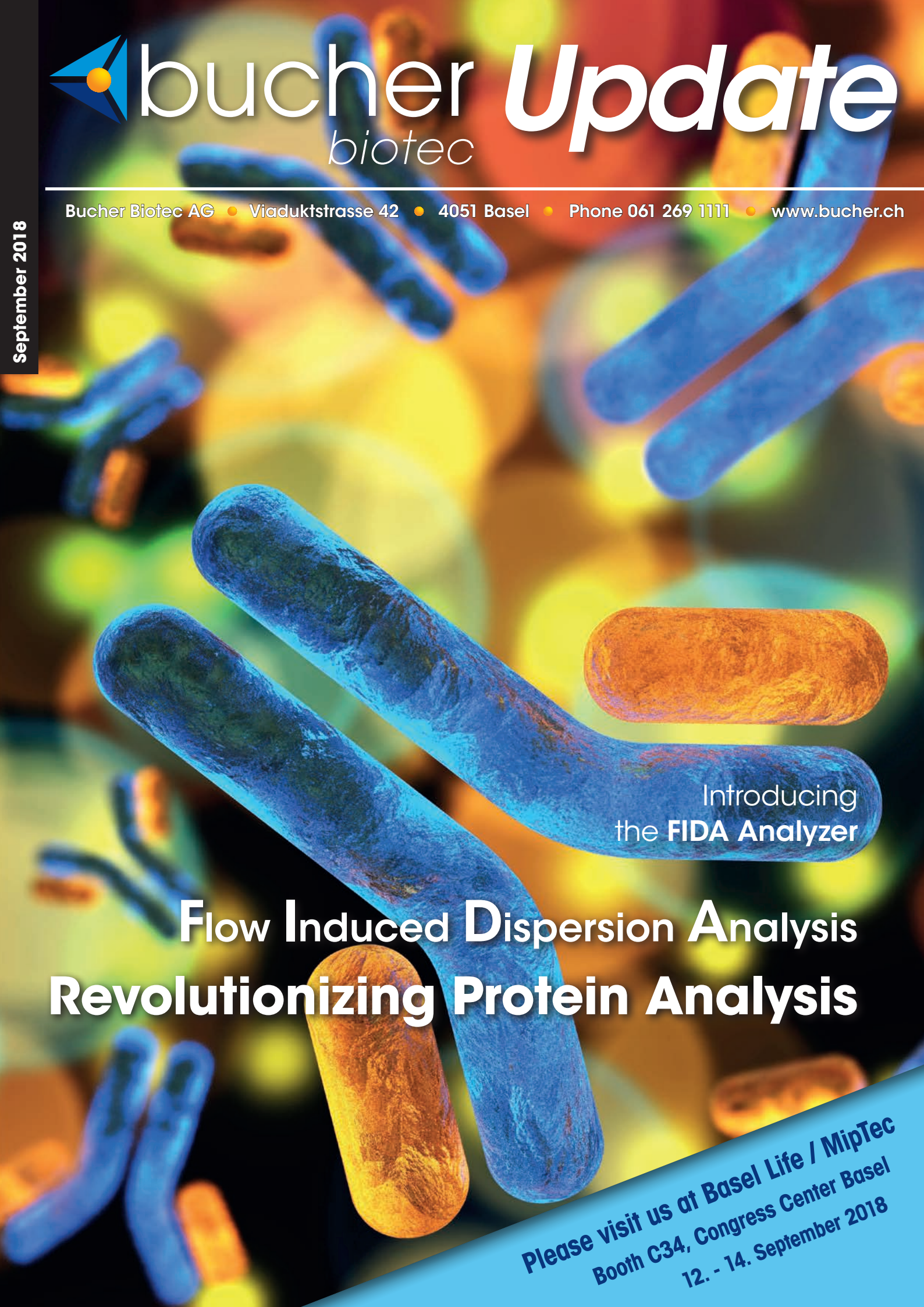
bucher biotec Update

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

September 2018



Introducing
the **FIDA Analyzer**

Flow Induced Dispersion Analysis
Revolutionizing Protein Analysis

Please visit us at Basel Life / MipTec
Booth C34, Congress Center Basel
12. - 14. September 2018

Flow Induced Dispersion Analysis

Introducing the FIDA Analyzer

The FIDA Analyzer is a versatile automated instrument offering **rapid, 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 and challenging assay development 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 for example 100% 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 possible immunecomplex precipitation, formation of aggregates or non-specific adsorption to the capillary wall.

FIDA TECHNOLOGY
Detection under native conditions

APPLICATIONS
Commanding immunogenicity

RESEARCH FOCUS
Drug development and post launch safety

PRODUCTS
Easy protocols – results in 5 min.

Fast assay development

The simplicity of the methodology makes assays development truly easy. The main requirement is the availability of a ligand, which binds to the analyte. FIDA is particular well-suited for detecting immune responses as it is only probing a single binding event in solution.

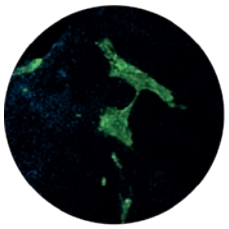
Ability to work with small sample volumes and recovery of sample

Thanks to the thin capillaries used to conduct the FIDA assay, the total sample volume consumption is a few nL to 3µL. In practice the sample is dispensed in a 96 well plate or in vials. All the remaining sample can be used for other analysis.

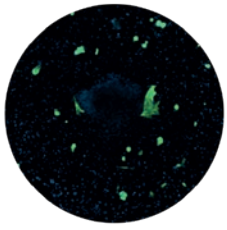
Please stop by at our MipTec Booth C34 during Basel Life in order to optain detailed information on the FIDA technology.

Exploring the Effects of Environmental Conditions on Cardiomyocyte Differentiation

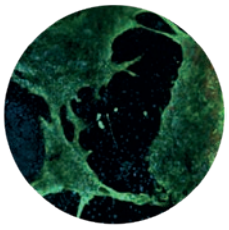
Utilizing regenerative medicine for treatment of cardiac injuries or disorders requires robust generation of cardiac cells. Traditionally, cell growth and differentiation has been performed in a standard incubator under normoxic conditions. Utilizing the XcellBio Avatar™ System, **you can now control both oxygen levels and pressure** to better mimic the environment found in the human body. Controlling the pressure of the cells has a significant impact on cell health, growth and differentiation.



Standard Incubator



5% O_2 + 0 PSI



5% O_2 + 2 PSI

Figure 1: Positive effects of pressure on cardiomyocyte growth and differentiation

Directed differentiation of specific lineages from human pluripotent stem cells (hPSCs), including human embryonic stem cells (hESCs) and induced pluripotent stem cells (iPSCs), is the first critical step toward constructing development or disease models, drug screening tools, or cellular therapies from hPSCs.

Because postnatal cardiomyocytes have little or no regenerative capacity, very limited supplies of human cardiomyocytes are available at present. This is a critical bottleneck in the development of new patient therapies.

Using a standard incubator vs. the AVATAR system, we divided our cell population into three categories:

- Normoxia and Standard Incubator
- AVATAR using 5% O_2 and 0 PSI
- AVATAR using 5% O_2 and 2 PSI

Keeping oxygen constant and fine tuning the pressure enabled us to determine the effects of pressure on the cells and assess the efficiency of cardiomyocyte generation.

The AVATAR Advantage

- Fine tune BOTH oxygen and pressure to rapidly expand patient-derived tumor, immune and stem cell populations
- Improve cell transfection efficiency, viability and expansion
- Control cell state by tailoring the gene, protein, and metabolic profiles of your cells

Xcell Biosciences' AVATAR™ AD Cell Control System

Controlled Differentiation

Figure 1 shows the effects of 5% O_2 with no pressure, and 5% O_2 with a preassure of 2 PSI. There is a clear impact on cell differentiation with the addition of increased pressure showing more widespread expression of mature cardiac markers.

The Avatar is the only system that empowers you to control both oxygen and pressure, and is hence ideal to mimic bodily environment during cell culture.

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

Appointment of Marc Bucher as CEO

Marc joined Bucher Biotec in 1997 and quickly assumed full responsibilty for Finance and Administration. He became a member of the board in 2003.

Due to the illness of his brother Roland, Marc has been promoted to the position of the CEO. Thanks to his extensive immersion in every daily business activity he is well equipped for this position.

Marc studied law at the University of Basel and he attended several semesters studying Biology at the Biocenter of the University of Basel.

Founders Anna and Paul Bucher will remain on the board of Bucher Biotec - which is celebrating its 40th anniversary.

Together with the entire team of Bucher Biotec AG Marc is fully committed to our pledge: **CUSTOMER FIRST.**

A Quanteon Leap in Benchtop Flow Cytometry

Introducing the NovoCyte Quanteon™

The recently introduced NovoCyte Quanteon™ flow cytometer builds on its 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 25 fluorescent channels utilizing **4 lasers** with **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.

Walk-away Automation Simplifies Your Workflow

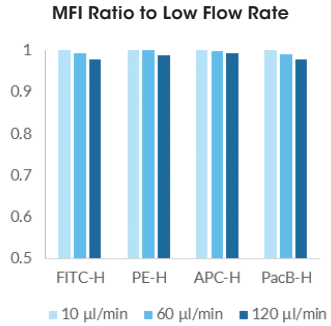
Easy startup & shut down

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.

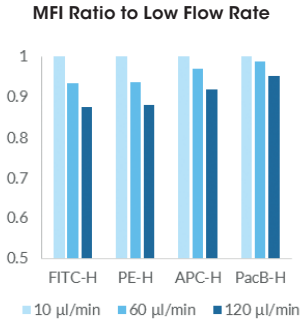
Embedded quality control

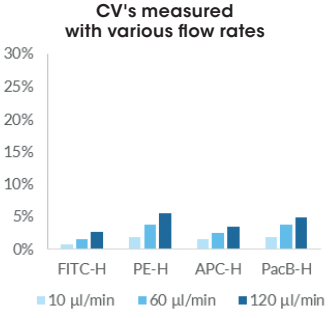
Quickly run daily QC, automatically generate comprehensive QC reports, and conveniently track performance over time with Levey-Jennings plots.The automatic QC test ensures proper performance monitoring on not only a day-to-day basis, but also over long-term use.

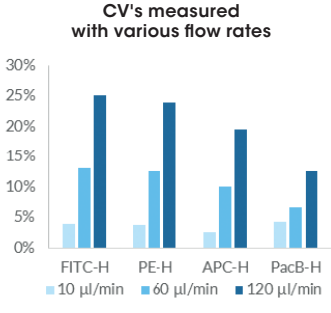
NovoCyte Quanteon™



Competitor



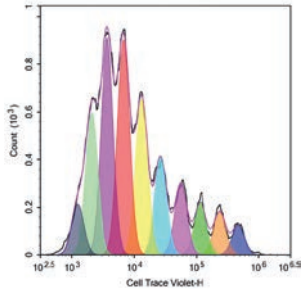




ACEA Biosciences' NovoCyte Quanteon™
A Flow Cytometer with Exceptional Reliability

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.

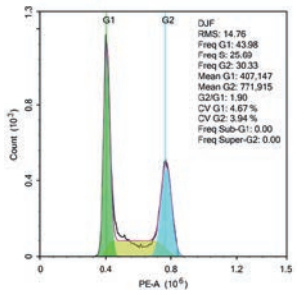


Hassle-free fluidics

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 is the flow cytometer you can always rely on.



It has 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 gives you peace of mind so you can focus more on your experiments.

Advanced Data Analysis Is Made Easy By NovoExpress

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

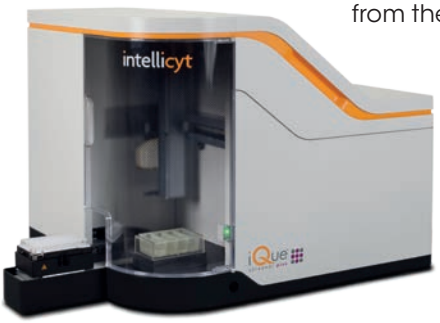
In order to discuss your specific application, please stop by at our MipTec Booth C34 during Basel Life (12. - 14. September 2018).

Expedite Your Antibody Discovery with
Intellicyt® Mouse IgG Type and Titer Assay Kit

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

With breakthroughs in molecular engineering and antibody humanization, monoclonal antibodies (mAb) are one of the fastest-growing classes of biopharmaceuticals for multiple clinical indications including cancer, cardiovascular disease, autoimmune disorders and infectious disease. Most therapeutic antibody candidates are initially generated using hybridoma technology or primary B cell screening after antigen immunization.

In the antibody discovery workflow, primary screens identify clones with specific attributes (i.e. binding specificity, cross species reactivity, selectivity and affinity). Potential clone candidates from the screen are assessed for a variety of critical parameters such as IgG isotyping, antibody quantification, and cell number/health which is vital information for lead molecule generation (Figure 1).



Quantification of mouse antibody from cell culture supernatant is traditionally assessed using enzyme-linked immunosorbent assay (ELISA). ELISA is a time consuming, single- endpoint assay, often requiring sample dilution and multiple washes. Additionally, separate IgG isotyping and cell count/health assays are performed to provide the scientific insight needed to facilitate downstream antibody cloning. **Intellicyt has developed a novel solution to disruptively improve this traditional workflow**.

The Mouse IgG Type and Titer Kit is a patented high throughput, multiplexed assay with a wide dynamic range requiring no sample dilution or wash steps. The simple mix-and-read workflow simultaneously measures five endpoints:

- IgG Isotype
- IgG Quantity per Isotype
- Total IgG Secretion Level
- Cell Count
- Cell Health

The iQue Screener PLUS can acquire data in as little as **20 minutes per 384-well plate**, while ForeCyt software provides powerful data mining tools for large hybridoma/B-cell screening studies.

ForeCyt's Panorama feature provides dynamic **multi-plate data analysis** including profile maps with user-specified criteria to quickly identify samples containing the desired IgG isotype, antibody concentration and cell health, critical for analyzing data from large, multi-plate screening campaigns.

IntelliCyt makes the difference!

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

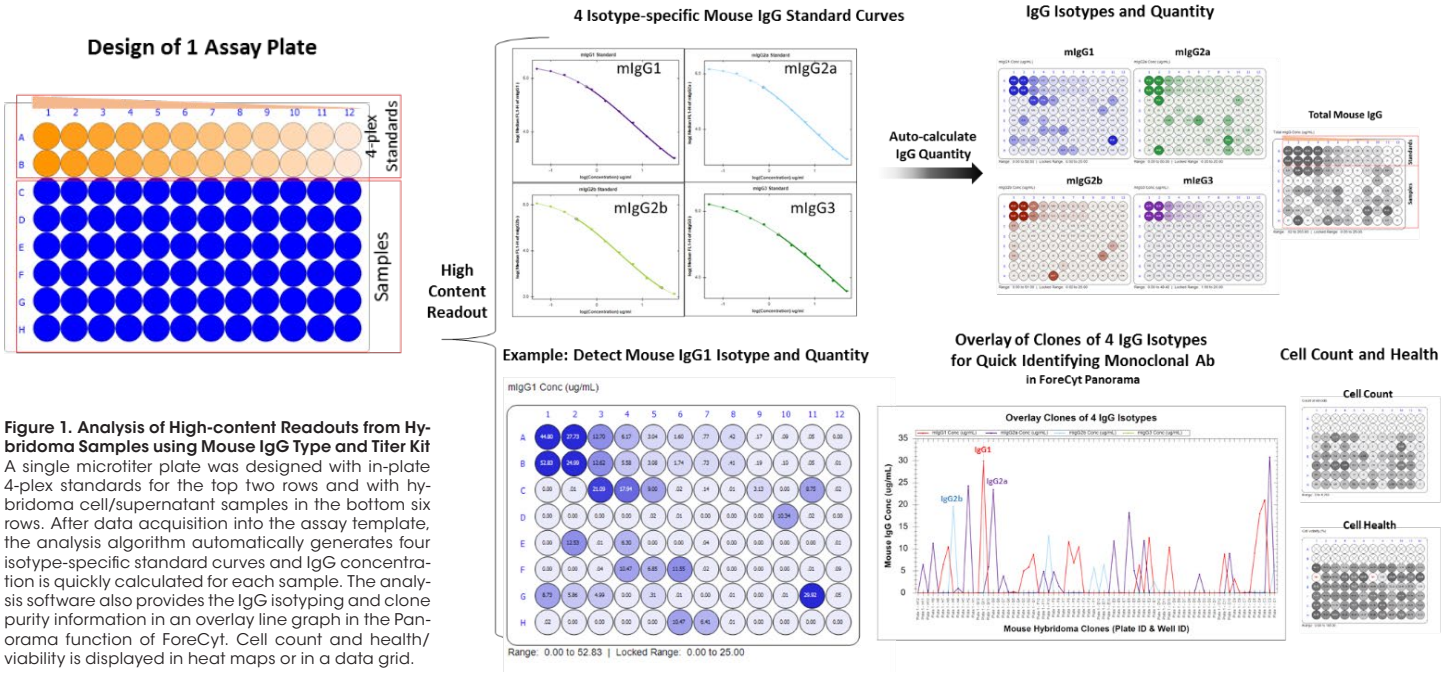


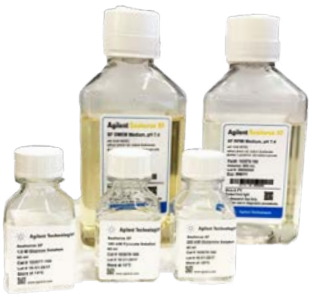
Figure 1. Analysis of High-content Readouts from Hybridoma Samples using Mouse IgG Type and Titer Kit
A single microtiter plate was designed with in-plate 4-plex standards for the top two rows and with hybridoma cell/supernatant samples in the bottom six rows. After data acquisition into the assay template, the analysis algorithm automatically generates four isotype-specific standard curves and IgG concentration is quickly calculated for each sample. The analysis software also provides the IgG isotyping and clone purity information in an overlay line graph in the Panorama function of ForeCyt. Cell count and health/viability is displayed in heat maps or in a data grid.

Ready At All Times!

The Agilent Seahorse XF pH-Ready Media and Supplements

Simplify Assay Preparation And Deliver Consistent Results.

One of the most time-consuming activities of your Seahorse XF assay is the preparation of the assay medium. The pH has to be accurately adjusted at a defined temperature. The metabolic analytes measured by Seahorse XF assays can be affected by the pH value, therefore it is important to ensure that the assay media have consistent pH value. Additionally, most cultured cells are acclimatized to a neutral pH environment- large changes to their pH environment can affect their metabolic profile and phenotype.



Agilent now offers a complete system for XF assay medium preparation. This includes buffered XF DMEM or RPMI media with a pre-adjusted pH of 7.4 at 37 °C and compatible XF supplements (for example, XF Glucose solution, XF Glutamine solution, and XF Pyruvate solution). There is no need to adjust the pH of assay media upon the addition of XF supplements at recommended concentrations. This simplifies XF assay workflow, saves time in assay preparation, and ensures a consistent assay media pH value across experiments.

Benefits of the Seahorse XF Technology

- **Measures distinct metabolic signatures**
- **Characterizes cellular phenotypes at each stage**
- **Enables routine and reliable stem cell phenotyping**
- **Facilitates the discovery of new standards and benchmarks**
- Pre-adjusted pH value of 7.4
- No need to perform pH adjustment upon addition of compatible XF supplements at the recommended concentrations
- Free of bicarbonate, phenol red, glucose, pyruvate, and glutamine
- Removes inconsistency from poorly calibrated pH equipment
- Allows conversion of Extracellular Acidification Rate (ECAR) to a quantitative measurement of glycolysis: Proton Efflux Rate (PER)
- Compatible with all Agilent Seahorse XF assays

For any additional information, please don't hesitate to contact us at 061 269 1111.

Audrey Lilly von Münchow

I'm Lilly von Münchow and in April I took off to my journey as **Application Scientist** with Bucher Biotec AG. By training I am an immunologist and I will always be. However, what fascinates me about my new role is my involvement in many very different projects and applications of our valued products. Myself, I also got first in contact with Bucher Biotec AG by facing unexpected data. I experienced outstanding support by my new colleagues and decided to join their mission.

I had a great start and now I'm enjoying to work with a wonderful team, where I can contribute with my knowledge and never stop learning. Now it is my turn and I want to continue providing the high-level support I experienced myself. Therefore, whenever you face a problem, you receive funny data from your experiments, or need new ideas or a new point of view, do not hesitate to contact me!

I am here to support you and I'm looking forward to getting to know you!

Lilly von Münchow and Kathrin Dienst

Kits and Reagents for Plate Reader-Based Live Cell Metabolism Assays

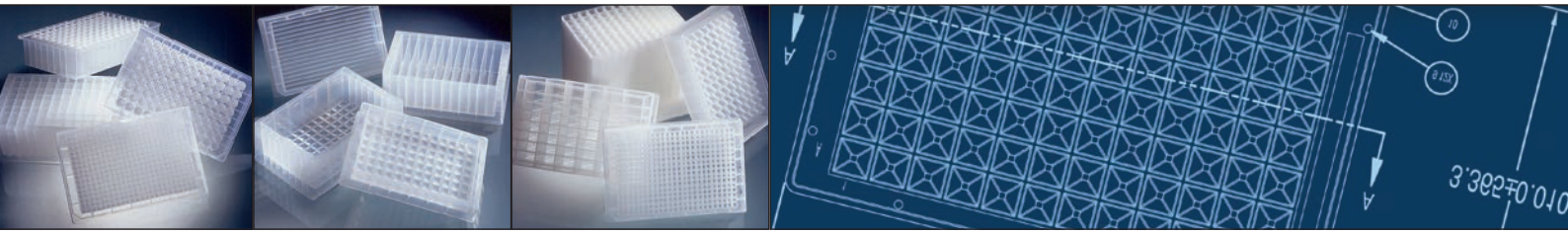
With the recent acquisition of **Luxcel**, Agilent now offers an even wider range of easy-to-use kits and reagents for measuring real-time energy flux, mitochondrial function, glycolysis and substrate utilization in living cells, isolated mitochondria, 3D cultures and microbes. This new panel of products is aimed for use with microplate readers. All kits and reagents are designed to enable convenient examination of key energy generating pathways and physiological parameters such as oxidative phosphorylation, glycolytic flux, fatty acid oxidation, mitochondrial function, and cellular oxygenation.

MitoXpress Intra provides a unique tool **to quantitatively monitor the oxygen concentration** that cells in culture are actually experiencing. Additionally, if the experimental objective is to monitor cell physiology under defined O_2 conditions, MitoXpress Intra provides the ideal tool to identify the appropriate environmental O_2 to achieve this desired cellular O_2 concentration as it accounts for the significant impact cell respiration can have on intracellular O_2 concentration. The flexible plate reader format also allows multiparametric or multiplex combinations with other commonly used reagents.

MitoXpress Xtra - Oxygen Consumption Assay allows a plate reader-based approach, **for the direct, real-time analysis of cellular respiration and mitochondrial function**. In addition, the **pH-Xtra Glycolysis Assay** enables researchers **to assess glycolytic rates and the impact on glycolytic flux**.

Common to all three assays is the highly flexible 96- or 384well format and its compatibility with many plate readers, thus eliminating dedicated hardware and allowing a high-throughput assay design.

Please contact us for more information on these new reagent kits and how they can help to improve your assays. (phone 061 269 1111 or email info@bucher.ch).



Promotion of Kathrin Dienst

Dr. Kathrin Dienst (née Pieles) joined our company in October 2015 and very quickly took over the responsibility for the scientific/application support of essentially our entire portfolio. Thanks to her sound scientific background from her PhD and Post Doc at the Biocenter of the University of Basel she mastered those tasks with high competence.

From the beginning she also demonstrated her ability for additional commercial responsibilities. Recent expansions of our crew allowed us therefore to appoint Kathrin to the Position of Product Line Manager with direct sales and support responsibility for two of our major product lines, IntelliCyt and Sphere Fluidics.

Despite her new responsibilities, Kathrin will continue to be a significant source for scientific support of our sophisticated products.

We highly appreciate your continued support for Kathrin and for our entire team at Bucher Biotec AG.

Microplates are the Currency of the Lab!

Have you known 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.

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

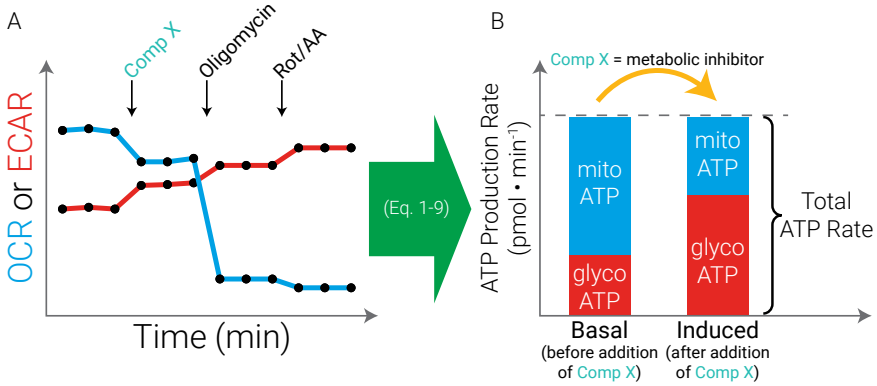
All of Agilent's products are designed and built to obtain the highest quality results. Simply check the online Product Selection Tool via **www.agilentmicroplates.com** or contact us to receive a copy of the Agilent Microplate Solutions brochure.

It's Time for A Better Measure of Cell Function

The Agilent Seahorse XF Real-Time ATP Rate Assay Kit

To truly understand cellular metabolism, you need to measure what matters. The Agilent Seahorse XF Real Time ATP rate assay is the only assay that quantifies the rate of ATP production in live cells and in real time. Using this assay, you can move beyond endpoint ATP assays and uncover which metabolic pathways are really driving your cells.

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. With the Agilent Seahorse XF Real-Time ATP rate assay, you can measure and quantify these rates of ATP production from both pathways simultaneously in live cells. Kinetic quantification of ATP production provides unique insights into the phenotype and function of your cells.



A) Schematic OCR and ECAR traces of an induced XF Real-Time ATP Rate Assay with injection of a metabolic inhibitor before addition of assay injections (oligomycin, rotenone + antimycin A). B) Cellular ATP Production Rates calculated for basal conditions and after addition of the test compound that induced a metabolic switch (decrease in mitoATP Production Rate and increase in glycoATP Production Rate) without significant changes in total ATP Production Rate.

More Informative, a Better Measure than the End-Point Total ATP Level Assays

Cellular ATP levels are maintained through a highly regulated system that allows cells to respond to changes in ATP demand via changes in ATP production rates, maintaining constant cellular ATP levels under physiological conditions. Assays that measure total ATP levels do not provide dynamic information regarding cellular activities and energy demand.

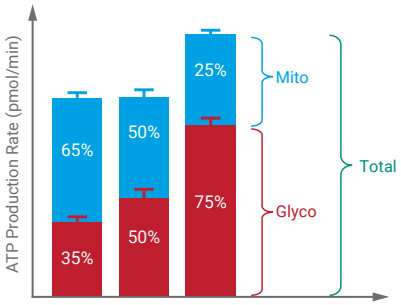
In contrast, real-time quantification of ATP production offers a more informative approach to assess the interplay between energy metabolism and cellular functions in response to gene modification, compound exposure and/or other types of interventions.

A Definitive Quantification of Metabolic Switching and Pathway Liabilities

Metabolic switching reveals the ability of a cell to compensate for a reduced or lost function of one pathway through an alternative pathway to meet energy demands for cellular activities. The Seahorse XF Real-Time ATP Rate Assay provides relatable metrics from mitochondrial and glycolytic pathways, thereby, enables researchers to quantify metabolic switching in response to modulators or uncover pathway or fuel liabilities.

Seahorse XF Real-Time ATP Rate Assay

Bioenergetic profile



- Quantify ATP production rates from glycolysis and mitochondrial respiration
- Understand the energy mechanisms driving cell behavior and function
- Generate real-time kinetic data from live cells
- Easy to run assay with integrated data processing tools for post-assay analysis
- Optimized single-use format for simplified workflow and reduced assay complexity

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

Agilent Seahorse XF Reagents Seminar Tour

Bucher Biotec is pleased to invite you to the upcoming Seminar Tour covering all Agilent Seahorse XF reagents and kits in order to help you to improve your real-time, live-cell metabolic assays.

Stay tuned for your personal invitation including detailed information on dates and locations throughout Switzerland.

Imagine a New Dimension of Tissue Clearing

Logos Biosystems' X-CLARITY™ Tissue Clearing System II

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.

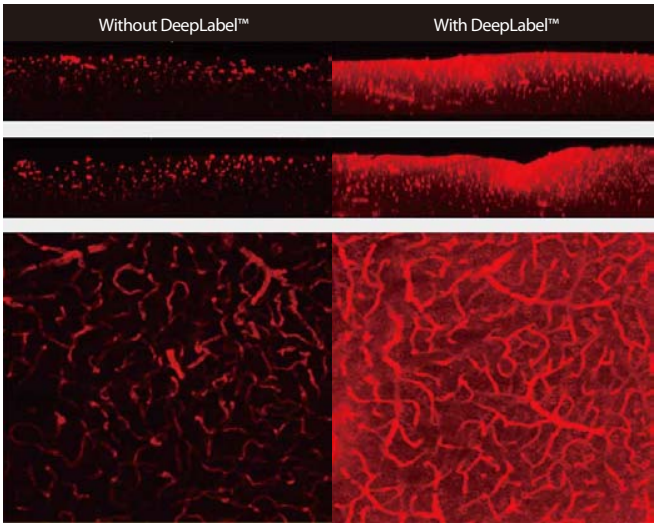
Users can set tissue clearing conditions through a simple and intuitive touchscreen interface. In ETC (electrophoretic tissue clearing) mode, platinum-plated electrodes generate an electric field to accelerate the removal of lipids from tissues in a highly efficient manner. A built-in temperature control 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 byproducts. This advanced system ensures efficient, rapid, and consistent tissue clearing.

- **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
- **Uniform electric field**
  - Platinum-plated electrodes
  - Constant current and constant voltage mode
- **User-friendly setup**
  - Simple touchscreen interface
  - Ready-to-use clearing solution

DeepLabel™ Antibody Staining (coming soon!)

The DeepLabel™ Antibody Staining Kit enhances antibody penetration into large clarified tissues for vibrant fluorescence 3D imaging. DeepLabel™ facilitates the diffusion of molecular probes deep into thick, protein-dense tissues for robust and efficient antibody labeling. DeepLabel™ has been optimized for the antibody labeling of clarified tissues.

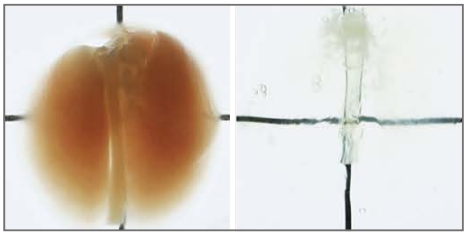
- **Efficient antibody penetration**
- **Site-specific labeling**
- **Deep permeation into thick tissues**
- **Simple protocol with ready-to-use reagents**
- **Vibrant imaging at subcellular resolution**



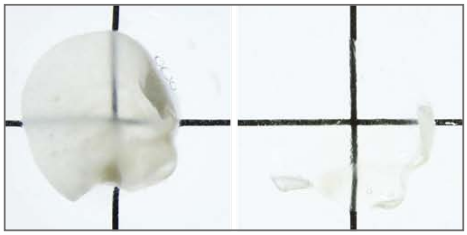
DeepLabel™ enhances anti-Collagen IV penetration into clarified mouse brain tissues.

Accelerate your research with X-CLARITY™!

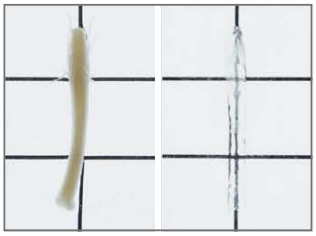
In order to schedule an appointment and an onsite demo simply contact us either by phone (061 269 1111) or by email (info@bucher.ch).



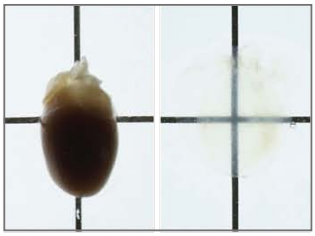
Mouse lungs and trachea cleared with the X-CLARITY™



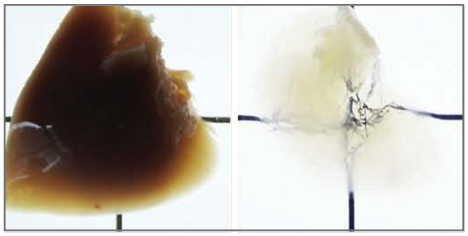
Mouse outer ear cleared with the X-CLARITY™



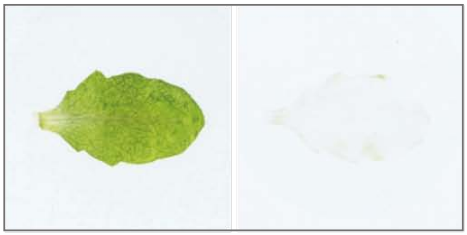
Mouse spinal cord cleared with the X-CLARITY™



Mouse heart cleared with the X-CLARITY™



Mouse liver cleared with the X-CLARITY™



Arabidopsis thaliana Cleared with the X-CLARITY™

New Powerful Automated High Content Imaging

Introducing the Logos Biosystems' CELENA® X

The new 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.

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**

The integrated CELENA® X Cell Analyzer software processes images and data for quantitative analysis. Analysis pipelines can be put together and reused to identify cellular or subcellular objects, process images for optimal data collection.

The CELENA® X is as flexible as it is 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**

Are you curious to see the system or even better to see 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.

Rapid and Accurate Single Bacteria Cell Quantification

Logos Biosystems' Quantom Tx™ Microbial Cell Counter

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.

Rapid

- **Minutes to results**
- **No culturing required**

Accurate

- **Objective and no user-to-user variability**
- **No estimating based on colony forming units or turbidity**

Single bacterium detection

- **Regardless of cell shape, size, or arrangement**
- **Sophisticated bacterial cell counting software**

Declustering algorithm

Bacterial cells often exist in dense clusters, making cell detection a challenging feat. Colony counting is a highly variable and unreliable counting method, as it is only an estimate of the viable cells present. A colony could arise from a single cell or a thousand cells. Even expensive flow cytometers and laser scanning cytometers register each particle, single or clustered, as a single event. In principle, individual cells in clusters can only be distinguished and counted with image-based counting methods. The QUANTOM Tx™ has a novel cell detection and declustering algorithm that can accurately count individual bacterial cells in even the tightest clusters.

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

Safe the Date!

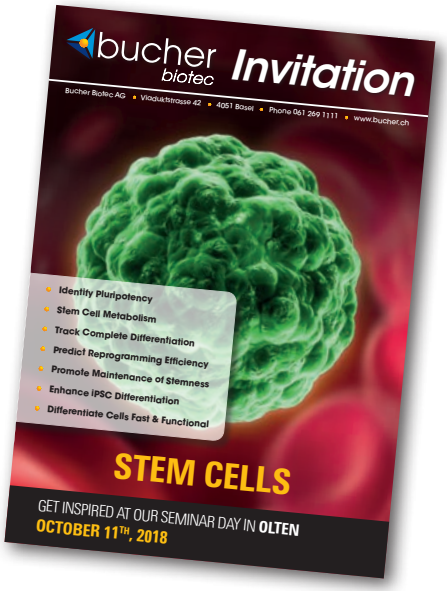
Invitation to our Seminar Day on Stem Cells

Olten, October 11th 2018

We would like to invite you to our upcoming Seminar Day.
Further information will be distributed in the next days.
We are looking forward to welcome you in Olten!

Speakers:

- **Gianluca Civenni**, PhD, IOR Institute of Oncology Research, Bellinzona
- **Séverine Giltaire**, PhD, ImmunXperts SA, Belgium
- **Zachary Pappalardo,** Xcell Biosciences, San Francisco, USA
- **Prof. Verdon Taylor**, Dep. of Biomedicine, Univ. Basel
- **Alessandro Prigione**, MD PhD, Max-Delbrueck-Center Berlin
- **Kathrin Dienst**, PhD, Bucher Biotec AG
- **Audrey Lilly von Münchow**, PhD, Bucher Biotec AG



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**)!

World's Most Sensitive Microvolume Spectrophotometer

DeNovix DS-11 FX+ Spectrophotometer / Fluorometer

Best-in-Class Performance and Features
When comparing the DeNovix DS-11 Series vs. other nanodroplet spectrophotometers, scientists consistently rate the DS-11 Five Stars on independent review sites!

- **Most Sensitive 1µL UV-Vis available**
- **Broadest Dynamic Range**
- **Stand-Alone (no PC required)**
- **Maintenance and Calibration Free**

The DeNovix DS-11 FX Series offers your choice of combined UV-Vis and Fluorometer modes in one space-saving unit. Pre-installed EasyApps® and an intuitive Android operating system make it easy to rapidly quantify samples. DeNovix instruments are calibrated for life.

Just pipette and measure. **It's that simple!**

And now it's time to take the DeNovix Challenge and decide for yourself!

We are so certain you will find DeNovix products easy-to-use and just right for your lab that we will send you the instrument to try for a week with no obligation.

- **One-Week Free Trial**
- **Free Fluorescence Quantification Kit**
- **Free DeNovix Challenge T-Shirt**

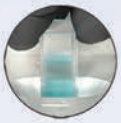
Take the DeNovix Challenge

Just let us know!

We are ready to act quickly (info@bucher.ch)

Microvolume UV-Vis
0.75 - 37,500 ng/µL dsDNA
Calibration-Free SmartPath® Technology

Integrated Fluorescence
0.0005 - 4,000 ng/µL dsDNA
UV, Blue, Green, Red channels



Cuvette UV-Vis
0.04 - 75 ng/µL dsDNA
OD600, Kinetics, Colorimetrics

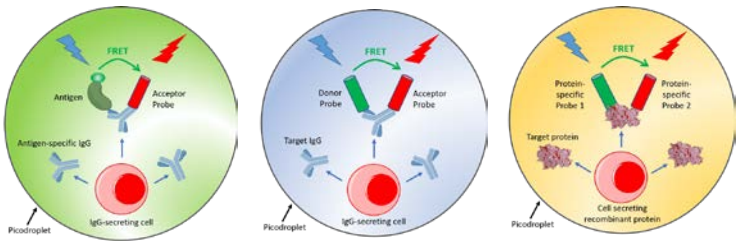
CytoMine® is the Next Generation Platform for Biopharmaceutical Discovery & Development

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



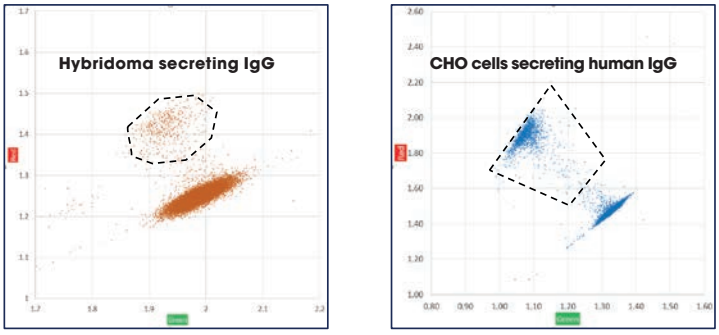
Antigen-Specific Assay:
- Hybridoma Fusion Screen
- B Cell Mining

IgG Secretion Assay:
- Productivity Screen

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

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

This high-throughput instrument uses picodroplet technology and micro fluidics to process around 1 million heterogeneous mammalian cells in less than half a day. Each cell is encapsulated in a picodroplet containing 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 selection or isotype-specific only, 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 eliminates 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.

Upcoming Events

Please visit us at anyone of these events:

- **ISREC-SSCL Symposium 2018**
  Horizons of Cancer Biology and Therapy
  Lausanne, 8. - 11. September 2018
- **Basel Life / MipTec 2018 (Booth C34)**
  Congress Center Basel, 12. - 14. September 2018
- **Bucher Seminar on Stem Cells**
  Olten, 11. October 2018
- **European Antibody Congress**
  Basel, 29. - 31. October 2018
- **Thematic LIMNA Symposium**
  Central Regulation of Metabolism and Feeding
  Lausanne, 8. November 2018
- **Life Sciences LS2 Meeting 2019**
  Zürich, 14.- 15. February 2019
- **WIRM 2019**
  World Immune Regulation Meeting
  Davos, 6. - 9. April 2019