



COUNTING | CULTURE | IMAGING | ANALYSIS | SAMPLE PREPARATION



Your Partner in Cell Research

SMART SOLUTIONS in Cell Analysis

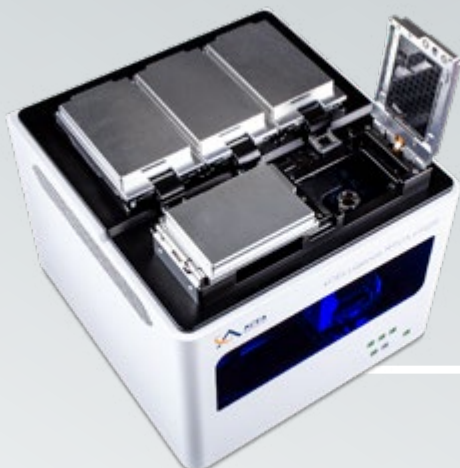


Sample Preparation

Automated Microscopy



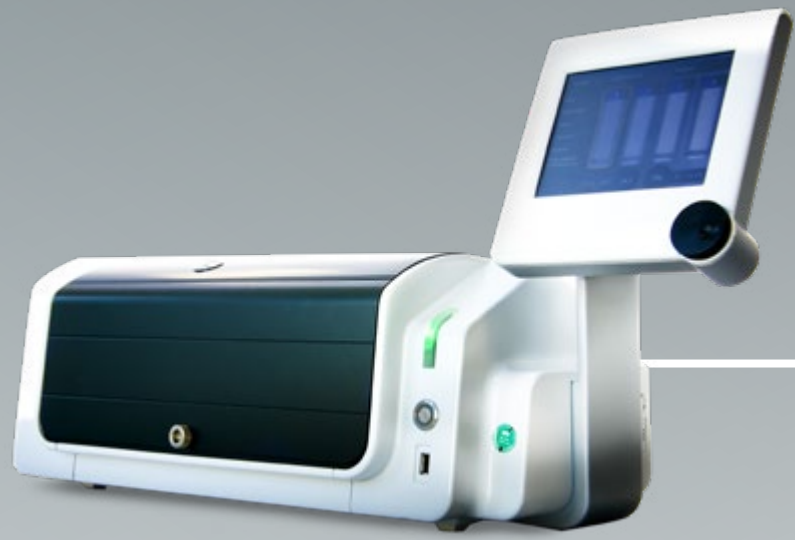
Real-Time
Cell Analysis (RTCA)



Live Cell Imaging



Cell Counting and More



3D Cell Culture



RTCA & Live Cell Imaging

Incubator Microscope



CASY Cell Counter and Analyzer

Multi-Parameter – Accurate – Reproducible

Highlights:

- Simple – no staining or sample preparation
- Fast – results in as little as 10 secs
- Unique – cell volume based detection and aggregation correction
- Reliable – highest reproducibility even in critical applications (PBMC, Cell- & Immunotherapy, stem cell research, biomanufacturing, ...)
- Modular – configure your CASY just the way you need it
- Cell QC – viability, cell size distribution (0,7-120 μm)

Globally, thousands of users, industrial and academic, trust CASY, the legend in cell counting. Whether working with mammalian cells, yeast, bacteria or one of many other cell types, CASY users rely on the unmatched precision, reproducibility and accuracy of the instrument combined with easy and intuitive use.

Dr. Heike Schwarz, Dept. of Cell Biology, DIARECT AG:

“We have been using CASY for the fast and reliable determination of cell concentrations and cell diameters of our cell cultures for 20 years now. We are still impressed by the high reproducibility of the measurements and the simple, intuitive operation of the device. The associated software offers great options for managing and displaying the measurement results graphically.”

Prof. Dr. Julia Bornhorst, Food Chemistry, University of Wuppertal:

“We have successfully been using CASY for 10 years now. With CASY we are able to carry out reproducible cell culture experiments even when working with highly aggregated cells. CASY allows us to consider cell concentration and aggregation when seeding and harvesting cells, as both are measured by CASY. Measuring accurately cell number, aggregation factor and cell volume, gives us the opportunity to express analytical data as concentration per cell. Additionally the molar amount of a substance within a cell can be calculated (used for example for metal uptake in μM).”



Made in Germany

CERO 3D Incubator and Bioreactor

Stem Cells – Spheroids – Organoids – Tissues

Highlights:

- Reduces cost, time and variation
- Improved viability and maturation
- Significantly reduced apoptosis & necrosis
- Homogenous conditions for homogenous results
- No shear forces and minimized levels of necrosis
- Enables pathogenic infection studies

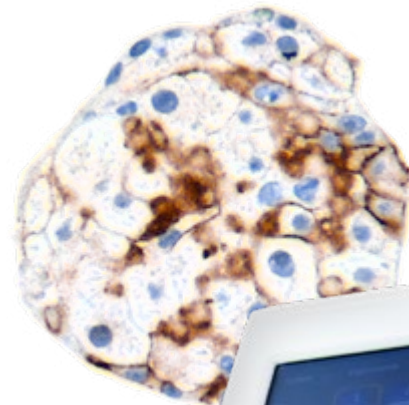
Think in new dimensions – CERO is overcoming known limitations of static cultures.

Easy, ready-to-use protocols, standardizable workflows and autoadhesion of cells without any need for Carriers or Matrigel are just a few of the advantages.

As a result, CERO enables high-yield expansion of pluripotent stem cells or long-term cultivation of tissue for >20 days (Spheroids >80 or Organoids >180).

Prof. Dr. Heikenwälder, Chronic Inflammation and Cancer, German Cancer Research Center (DKFZ), Heidelberg, Germany:

“Cultivating hepatocyte spheroids in CERO improves expansion, differentiation, maturation, and hepatic virus infection considerably compared to monolayer culture. Our research takes advantage of healthy cells even from long-term cultures in CERO. Moreover, we are now able to perform 3D long-term culture of human tissue specimen in CERO – a paradigm shift.”



Made in Germany



Hermes Cell Imaging Workstation

High Content Imaging made Easy

Highlights:

- Easy to use – intuitively operated
- Flexible – suitable for many plates and sample formats
- Versatile – up to 7 fluorescence colors with options for enhanced throughput configuration
- Flexible – adaptable to diverse users, including spheroids, 3D models and rare-event detection
- Live cell time lapse imaging option
- Biological application-focused image analysis software, designed for non-experts
- 24/7 automation and integration ready

Performs common research applications at the push-of-a-button. The fastest system in its field, bringing high-throughput rates to the high-content world.

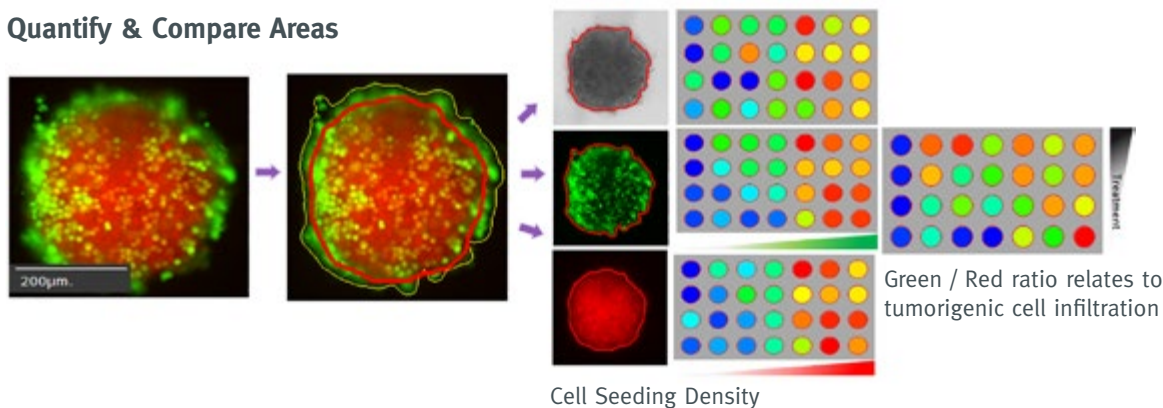


Spheroids and 3D Imaging

Image and quantify spheroids easily and efficiently.

- Capture properly focused images of spheroids in their ideal growth environment in U-shape bottom plates
- Easily spot spheroids using unique methodology of rapid scanning for spheroid localization
- Simple and labor reducing automated analysis of spheroid relevant features
- Monitor spheroid growth over the entire plate
- Apply live/dead spheroid analysis to monitor spheroid viability
- Visualize spheroid morphology over a range of depths using flexible multi-plane definitions
- Mobile objective and stationary sample design maintains spheroid integrity by avoiding sample shaking during plate-wide scans

Quantify & Compare Areas

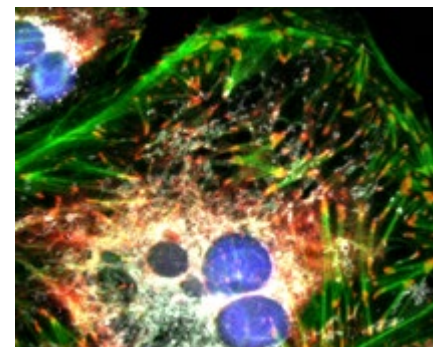


Efficient Rare Event Analysis

Intelligent tool to overcome challenges in studies of rare events. Acquire images only in areas of interest to improve your statistics, protect resources, save time and money.

- Sophisticated detection and readout techniques for real-time analysis
- Captures dynamic processes and identifies transient features
- Automated and highly accurate detection of rare events
- Document events at high resolution with additional data mining
- Scanning time and acquired data volume are minimised and spent efficiently
- Obtain meaningful data on the kinetics of your biological system without investing any extra resources or cost

Live cell imaging in different cell types and cellular organelles

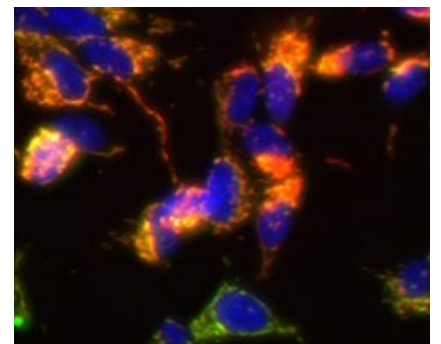


BSC1 40x Fibroblasts, 4 color

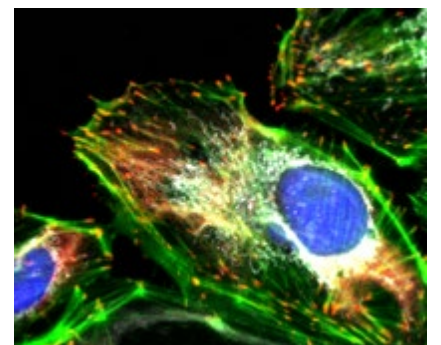
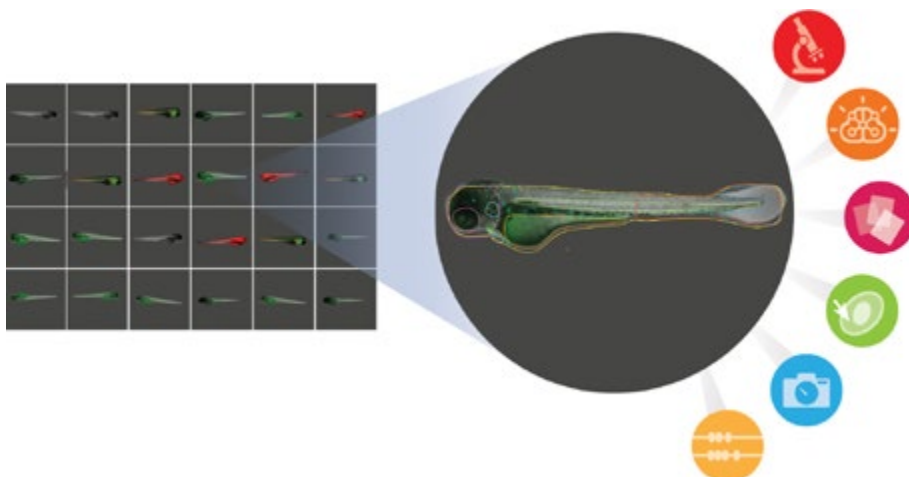
Zebrafish High Content Screening

Quantify fluorescence, morphological changes and other features in Zebrafish larvae in a high throughput format.

- Analyze label-free or fluorescently tagged fish and organelles using artificial intelligence
- Multiple levels of magnification available from 2X to 60X
- Unbeatable throughput: 96 larvae within minutes



Mitochondria morphology - TMRM with segmentation masks, 40x , 3 color



Cytoskeleton fiber detection

xCELLigence RTCA – Real-Time Cell Analyzer

Non-Invasive – Easy to Operate

Highlights:

- Continuously monitor live cell proliferation, morphology and viability
- Label-free, impedance real-time analysis
- Different throughputs from 16 to 6x96 well formats
- Use of E-plates – gold microelectrodes fused to a microtiter plate well
- Kinetic read-out – capture both short (sec) and long-term effects (days)
- Exceeds limitations from endpoint-assays

Specialized Functionalities:

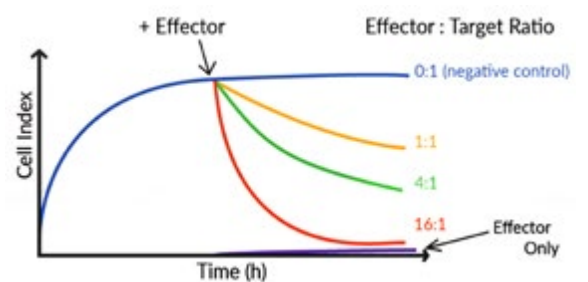
- RTCA Dual Purpose
 - Cell invasion & migration
- RTCA Cardio, Cardio ECR
 - Cardiomyocyte contractility, viability & electrical activity
- RTCA eSight
 - RTCA & Live Cell Imaging

Variety of applications:

- Cancer Immunotherapy
- Drug Discovery & Development
- Virology Research
- Vaccine Development
- Bacterial Biofilms
- Receptor interaction

Prof. Dr. H. Ungefroren, CBBM, Lübeck, Germany:

“We are studying oncogenic and metastatic signaling pathways in pancreatic carcinoma cells. Cell migration assays using the xCELLigence DP system have proven indispensable for our work, as it allows us to generate valuable, easily quantifiable kinetic data, combined with a simple and time-saving setup procedure.”
Visit Prof. Ungefroren’s Lab: bit.ly/DP-Lab



xCELLigence eSight RTCA

Two Modes – One Experiment – Easy Workflow

Highlights:

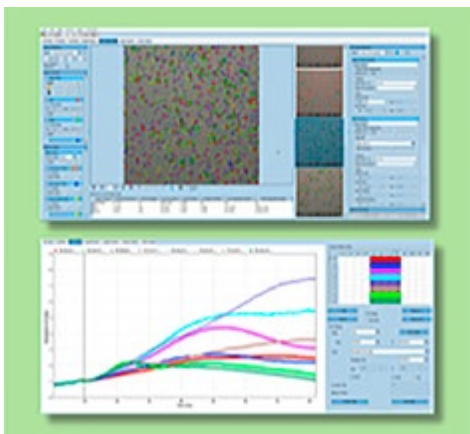
- Perform Impedance (RTCA) and Live Cell Imaging simultaneously
- Equipped with 3 fluorescence channels (red, green, blue) + brightfield
- Availability of 5 cradles (3 for impedance + imaging; 2 for imaging only)
- 5 x 96 well-plates can be analysed concurrently
- Quick read out – measures impedance of a 96 well-plate in 15 seconds; images a 96 well-plate in 6 minutes
- Intuitive data analysis RTCA software

J. Peper, IFIZ Tübingen, Dept. Immunology:

“We’ve searched an alternative to Chromium Release Assay (CRA), ideally without the need for using dyes or being limited by endpoint-assays. xCELLigence turned out to be the most suitable and easy to install. We now achieve an effector to target ratio of 0.05:1, evaluate complete kinetics and even might use effector cells in further experiments.”

The power of Live Cell Imaging now combined with sensitivity of xCelligence Biosensor RTCA technology. Live cell imaging and real-time biosensor measurements on the same cell populations which provides insightful information on cell behavior.

Single Set Up for Dual Measurements



Live cell imaging and real-time biosensor measurement are performed on the same cell populations to provide incisive information on cell behavior. Place plates in incubator, set up real-time data acquisition & analysis parameters, then walk away.



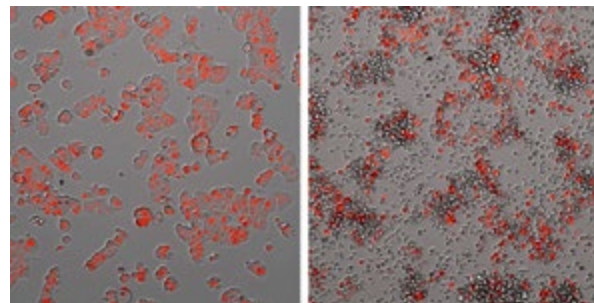
xCELLigence eSight Application Range

Proliferation – Cytotoxicity – Apoptosis

Highlights:

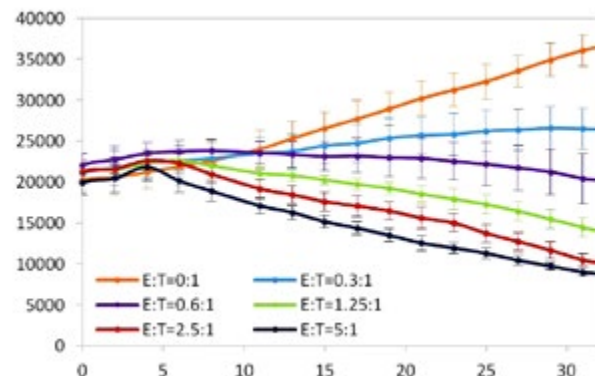
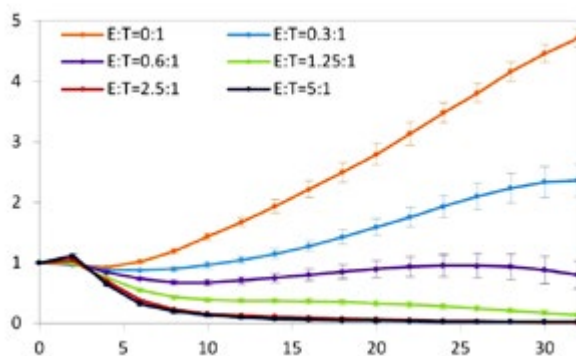
- Streamlined workflow
- Quantitative kinetics
- Sensitive readout
- Physiologically meaningful data

Monitoring of Immune Cell-mediated killing of MCF7 breast cancer target cells in real-time.



Images taken before (left) and 30hr (right) after NK92 effector cells addition at an E:T ratio of 2.5:1 allow visualization of target cell (red) death over time.

Effectors addition causes cancer cell death in a E:T ratio-dependent manner as shown by biosensor (left) and imaging (right) measurements. Red fluorescent cell count indicates number of living target cells.



zenCELL owl Live Cell Imaging

Stable – Compact – Flexible

Highlights:

- 24-channel automated incubator microscope
- Small footprint, compact design
- Built-in image processing algorithms for fast and accurate data analysis
- Broad range of applications for real-time monitoring of cell growth and confluency, cytotoxicity, stem cell monitoring and cell migration

Get a better overview of your cell culture. The zenCELL owl is a real-time incubator microscope system for fast and automated live cell microscopy. The modular design allows flexible configurations to guarantee a suitable and safe analysis of biological samples.



Curiox Laminar Wash™ Systems for Flow Cytometry

Less Workload – Time Saving – No Cell Stress

Highlights:

- Eliminates time-consuming, hands-on centrifugation
- Superior consistency of flow cytometry data without centrifugation
- Enhanced retention of cells
- Improved enumeration of cells
- Easy integration into your lab automation

Successfully demonstrated on various applications including immunophenotyping and CyTOF.



Laminar Wash HT 1000

Highlights:

- Rapid Time to Results – 96 well plates washing in 3 mins
- Consistency – reducing variation from manual handling

Superior consistency and robust flow cytometry data using centrifuge-less washing.



Laminar Wash MINI

Highlights:

- Time savings – 8 samples in three minutes
- Few but precious samples – increased cell retention e.g. for splenocytes and TILS

An affordable, benchtop instrument for sample preparation for flow cytometry for every lab.

Laminar Wash AUTO 1000

Highlights:

- Walk-away automation – complete solution for sample preparation for flow cytometry
- Improved efficiency and less waste due to automation
- Consistent data with low coefficient variant

Fully automated system for surface staining and intracellular staining for flow cytometry. Enables compliance as every step is recorded in the software.



Service & Support

Personalized – Fast – Local



- **Instrument Service:** Our service team provides technical assistance for all questions arising in a timely manner. This service is ongoing during and after purchase process. During installations our technical experts can be on site to guide and train you.
- **Technical Service:** The OLS scientists in the technical support team support you professionally with a broad expertise. They can assist you to optimize your experiments and workflows.
- **Consulting:** Individual consultancy on your specific needs. Our consultants support you in finding the best instrument solution for your lab and your workflow. Let us discuss and find smart, customized solutions that meet your specific needs.
- **Training, seminars and workshops:** Meet our experts during training events or workshops and learn more about the applications, trends and tips & tricks in cell analysis. Check out our website for upcoming training events.

BROAD RANGE OF INSTRUMENTS | BEST RESULTS IN LESS TIME | EXPERTS' KNOW-HOW

3 Questions for Dagmar Jürgens - Owner



What values do you stand for with your company OLS?

OLS is a medium-sized family business that is deeply rooted in Bremen. However, we act globally and we are represented locally in Switzerland with our OLS branch in Basel to be always right at hand for our Swiss customers.

As an owner of OLS, I stand for stability, quality, reliability and a trustworthy cooperation with our customers and business partners.

By following these values, I am supported by a great team at OLS. And it is this OLS family that meets all the challenges to achieve our most important goal: happy customers and satisfied partners.

Why would you buy OLS instruments?

This is quite simple: OLS offers innovative and exclusive technologies with unique selling points. As a customer, I am not left alone even after sales, for example through application support or refresher training – all from a single source.

What is the highlight of your time with OLS?

My highlight is the recognition we have earned from our loyal customers: As a supplier of high-quality laboratory equipment for cell laboratories and as a reliable partner in the areas of consumables, service and training.

Your Partner in Cell Research

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