Human Cell-Based Assay Services

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Fast.
Competitive.
Predictive.

What do you want to explore?

- Barrier Function
- CAR-T
- Cell Monitoring
- Cytolysis
- TEER
- GPCR

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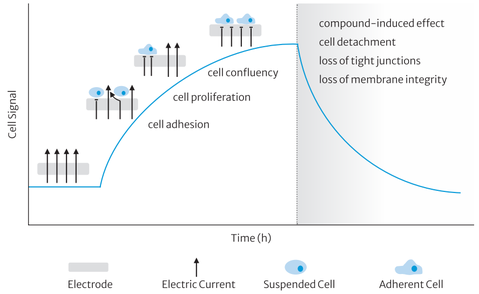
High Throughput Monitoring of Cellular Information

Cellular reactions beyond biochemical endpoints play a pivotal role for lead optimization, efficacy, safety and toxicity testing, regardless of the therapeutic area your project is focussed on.
The AtlaZ system (Nanion Technologies) monitors compound-induced effects of small molecules, biopharmaceuticals, vector-based or immune therapeutics on cellular level based on impedance technology.

The advantages of simultaneously analyzing six 96-well plates and utilizing a broad frequency spectrum allow for high-throughput analysis of morphological changes, reorganization of the extracellular matrix, modifications of cellular junctions, cytolysis, or wound healing.

Technology – Electrical Impedance

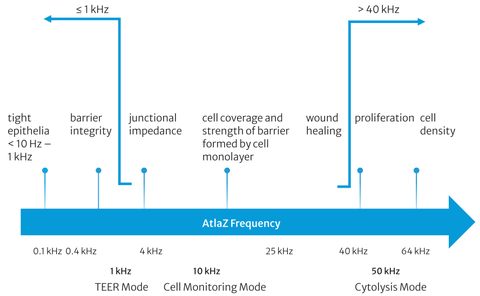


The AtlaZ system is based on the impedance technology.

Unique 96-well cell culture plates with integrated gold electrodes allow for quantitative live-cell analysis by measuring the impedance (Ohm) of adherent cells. The cell signal value offers information on cell adherence, proliferation or cell death.

Six 96-well plates can be assessed simultaneously enabling the execution of n=576 experiments at the same time.

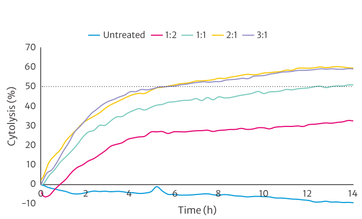
Diverse Frequency Spectrum for Cellular Analysis



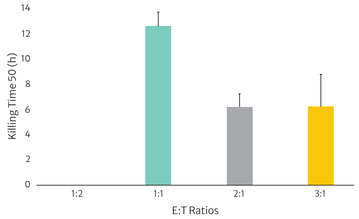
A frequency spectrum ranging from <10 Hz up to >64 kHz enables the analysis of a unique richness of cellular information, such as barrier integrity, cytolysis, cell monitoring or Transepithelial Electrical Resistance (TEER).

A simultaneous assessment of all frequencies is feasible to speed up live cell analytics.

Immune Cell-Mediated Killing of A549 Cancer Target Cells

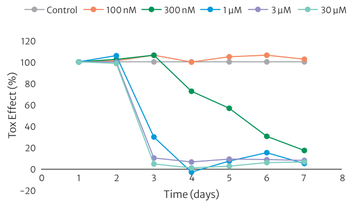


Cytolysis of A549 cancer target cells mediated by increasing effector T-cell ratios (E:T ratio 1:2, 1:1, 2:1, 3:1). Effector cells were added 24h after target cell seeding. AtlaZ control software calculates cytolysis (%) as well as Kill time 50.



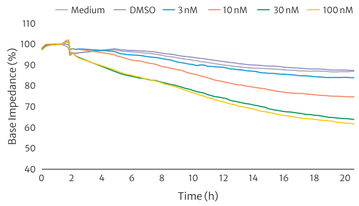
Kill time 50 of A549 cancer target cells. 50 % of cancer cells were killed by effector T-cells after 6 h at ratio 2:1 and 3:1 as well as after 13 h at ratio 1:1. Kill time 50 was not reached within 15 h at ratio 1:2. n=3-7.

Toxicity Effect of Aflatoxin B1 on Hepatocytes



Human iPSC-derived hepatocytes, cultured in 2D, show a concentration-dependent hepatotoxic effect upon Aflatoxin B1 treatment. Aflatoxin B1-mediated hepatotoxicity is a known effect in metabolically active hepatocytes.

Toxicity effect of Doxorubicin on Cardiomyocytes



Impedance recordings of human iPSC-derived cardiomyocytes show a concentration-dependent decrease of the base impedance in %, demonstrating structural cardiotoxicity when treated with doxorubicin.

Live-Cell Analytics Service – Application Fields and Timeline

Order Your Quantitative Phenotypic Service to Reveal the Full Spectrum of Cell Responses

- \+ High Throughput Analysis (576 wells)
- \+ Simultaneous Analysis of the Entire Frequency Spectrum
- \+ Label-Free Monitoring of Cellular Events over Weeks
- \+ Acute and Chronic Assessment for Time and Dose-Dependent Effects

Contact us to speed up your drug development process!
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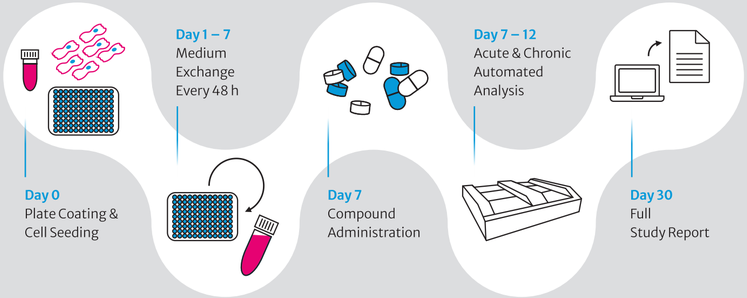
Get Your Study Report within 6 Weeks



Harness the Full Power of Live Cell Monitoring

- → Immuno-Oncology
- → Cell Proliferation
- → Cell Signalling
- → GPCR
- → Cytotoxicity
- → CAR-T
- → Wound Healing
- → Barrier Function