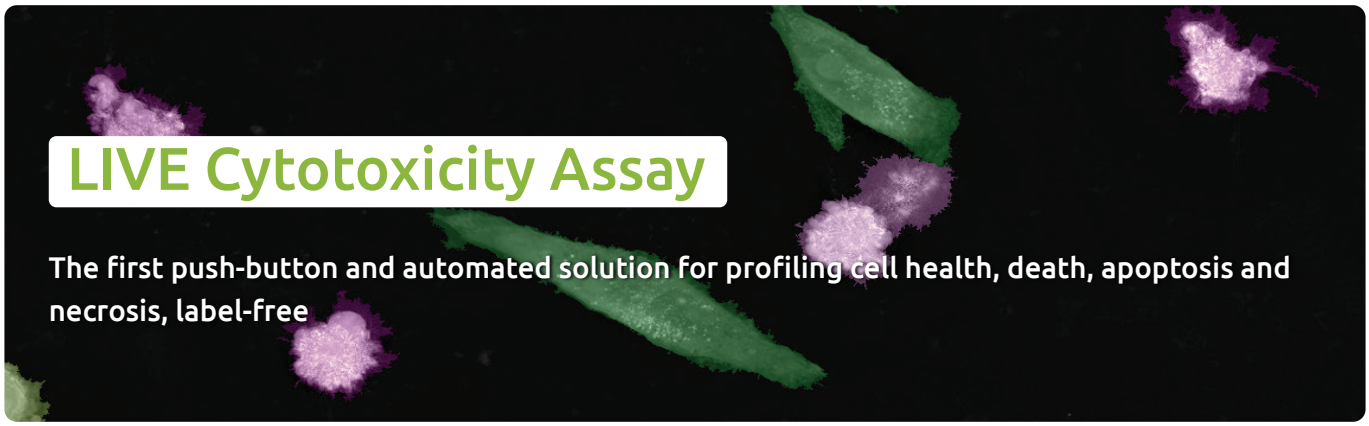


LIVE Cytotoxicity Assay

The first push-button and automated solution for profiling cell health, death, apoptosis and necrosis, label-free

Obtain comprehensive cell health and death profiles

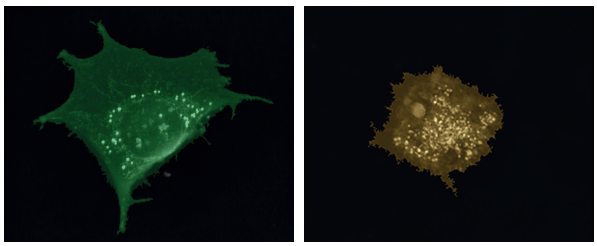
By combining comprehensive viability metrics with advanced machine learning–based classification, the **LIVE Cytotoxicity Assay** provides decision-ready insights into drug efficacy, safety, and mechanism-of-action. Results are delivered automatically with clear visualizations, supporting faster and more reproducible compound evaluation in preclinical pipelines.

- Increase predictive value by capturing multiparametric cell responses
- Improve translational relevance with co-culture analysis
- Accelerate drug discovery with streamlined, workflows
- Standardize results with automated, reproducible analysis
- Label-free for more unbiased data

Beyond viability: Multiparametric cytotoxicity profiling

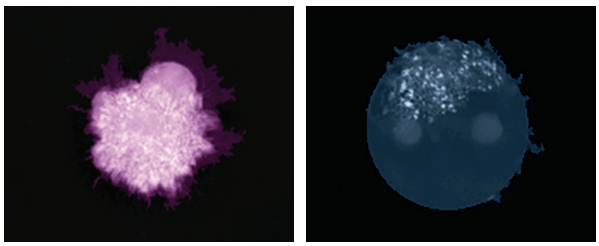
The **LIVE Cytotoxicity Assay** delivers a complete view of cell health and death over time, automatically distinguishing living, apoptotic, and necrotic cells, entirely label-free. Combined with complete cellular phenotypic profiling, this enables researchers to uncover how compounds impact cells, not just whether they live or die.

Capture the full spectrum of cell health with decision-ready viability metrics for smarter compound selection



Living cell | Dead cell

Detect mechanism of cell death to reduce risk in safety and efficacy assessments



Apoptotic cell | Necrotic cell



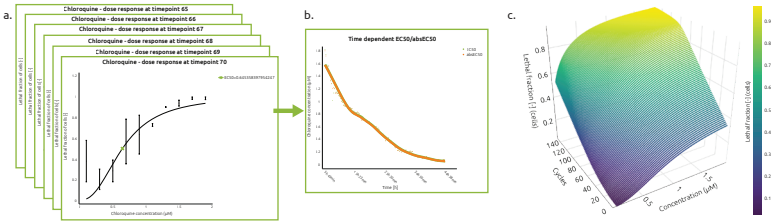
"The LIVE Cytotoxicity Assay is a crucial tool for us in evaluating cell toxicity, especially as we focus on targeted cell apoptosis for our future products."

Dr. Leithe Budel
Lab Head, Internal Claim Substantiation, dsm-firmenich

View more information on this assay and its applications

Automated, dynamic EC50 analysis with EVE Explorer

Our integrated analysis package for high-content live cell imaging data, EVE Explorer, transforms complex datasets into decision-ready results, delivering automated dynamic EC50 calculations alongside comprehensive viability and phenotypic metrics. With fully automated workflows, customizable visualization, and seamless data management, researchers can move from raw images to actionable insights in hours, accelerating dose selection, ranking, and go/no-go decisions.

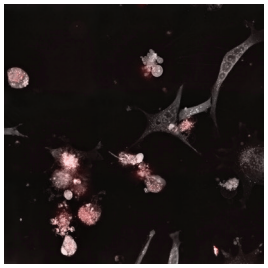


Dose-response curves are generated at every time point of image acquisition to determine EC50 (a) and are automatically consolidated into time-resolved EC50 plots (b). 3D plots of dose vs lethal fraction vs time allow for visualization of drug-response kinetics (c).

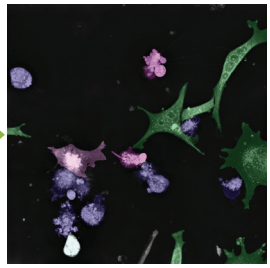
Correlate molecular and structural changes for greater translational relevance

Combine Nanolive's label-free imaging with optional fluorescence to visualize specific molecular targets, define subpopulations, and quantify changes such as gene expression over time.

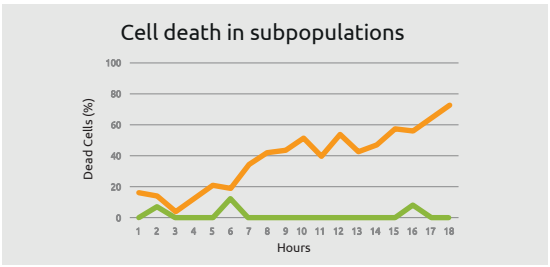
Profile drug candidates in true co-culture systems that mirror in vivo complexity, enabling simultaneous evaluation of efficacy, selectivity, and off-target effects in a single, data-rich experiment.



Refractive index image with **fluorescent signal overlay.** Fluorescent cells are detected and analysed as a separate subpopulation.



Digital classification of **living**, **apoptotic** and **necrotic** cells.



Specific death metrics are produced for each subpopulation of cells.

Applications of the LIVE Cytotoxicity Assay

2D co-culture microenvironment

Better recapitulate the tumor/tissue microenvironment

Drug safety

Test drug specificity and cytotoxicity on co-cultures

Drug delivery

Monitor uptake of fluorescent drugs or nanoparticles

Immunocytochemistry

Quantify cells expressing specific cell surface markers using fluo-tagged antibodies

Nanolive SA
Lake Geneva Park | Route de Lully 5B | 1131 Tolochenaz | Switzerland
www.nanolive.com | +41 21 353 0600 | lookinginsidelife@nanolive.ch