PRESS RELEASE

November 11th, 2023 – Tolochenaz, Switzerland

Introducing Nanolive's LIVE Cytotoxicity Assay: Revolutionizing Cell Health Profiling with Unprecedented Precision

November 11th, 2023| Tolochenaz, Switzerland: Nanolive, a pioneer in innovative cell imaging and analysis technology, proudly unveils its latest innovation, the LIVE Cytotoxicity Assay. This groundbreaking solution is the only label-free approach to automatically profile cell health, death, apoptosis, and necrosis, marking a significant milestone in the field of cytotoxicity assessment.

Designed to redefine the landscape of early drug discovery and preclinical toxicology, and safety, the LIVE Cytotoxicity Assay sets a new standard for predictive value, decision-making, and translational relevance.

Figure 1 Nanolive's 3D Cell Explorer 96focus with the LIVE Cytotoxicity Assay

Key Advancements of the LIVE Cytotoxicity Assay

This cutting-edge technology transforms cell analysis with a suite of key features. It offers **unbiased, AI-powered analysis**, guaranteeing reproducibility and eliminating human bias through automated AI cell and cytotoxicity analysis. Nanolive's **label-free, live cell data** ensures that measured effects are solely attributed to the drug under examination, free from the interference of exogenous chemical dyes and labels. Furthermore, the LIVE Cytotoxicity Assay leverages high-content data to **enhance the accuracy and reliability** of toxicity assessments, empowering informed decision-making in drug development.

The LIVE Cytotoxicity assay also provides the option to monitor fluorescent signals in cells, enabling the measurement of gene expression, particle uptake, or the **study of co-cultures**, providing a more holistic understanding of cellular responses under conditions that more closely represent the in vivo state. This capability **accelerates drug development** by streamlining workflows and unlocking deep cellular insights, allowing for the prioritization of the most promising lead candidates and optimizing drug development timelines.

The Ultimate Tool for Preclinical De-Risking

The LIVE Cytotoxicity Assay stands as the only cytotoxicity assay that provides label-free profiling and differentiation of living, apoptotic, and necrotic cells, making it the most reliable tool to de-risk lead candidates in preclinical drug development. The LIVE Cytotoxicity assay is powered by AI trained on Nanolive's high-content, high-resolution images of adherent cells, to reliably classify cells as living versus dead, completely without the need for exogenous labels. Nanolive's unique technology ensures unparalleled accuracy and confidence in cytotoxicity assessments, unmatched by any other methodologies available on the market. The LIVE Cytotoxicity Assay from Nanolive represents a quantum leap in cell viability profiling for drug development, empowering preclinical researchers to prioritize the safest lead candidates with unbiased quantitative data on the response of living cells to drug perturbation. By harnessing the power of AI and label-free technology, Nanolive is driving innovation in the field cellular analysis to new heights.

Fluorescence-Enabled Real-Time Monitoring for Enhanced Cellular Insights

The LIVE Cytotoxicity Assay incorporates fluorescence as an optional yet integral feature. This advancement enables the analysis of fluorescent signals within cells under diverse experimental contexts. The LIVE Cytotoxicity Assay can measure dynamic expression of reporter genes or the uptake of fluorescent particles or drugs while phenotypic and viability metrics are simultaneously extracted. The LIVE Cytotoxicity Assay is poised to revolutionize cell and gene therapy development.

By employing fluorescence quantification in tandem with AI-analysis, cells can be categorized into subpopulations, enabling real-time monitoring of diverse cell lines in co-culture. The LIVE Cytotoxicity Assay can then calculate death kinetics over time for each subpopulation, offering insights into the rate of cell death, as well as the quantities of living, apoptotic, and necrotic cells within each group. This capability facilitates the monitoring of distinct responses in different cell, or within groups of cells from the same lineage, leading to more biologically relevant in vitro experiments. As a result, data generated closely mirrors in vivo conditions, significantly improving the translatability of findings to the clinical stage.

For more information please visit https://www.nanolive.ch/products/live-cell-analytics/live-cytotoxicity-assay/.

About Nanolive

Nanolive SA is a Swiss company pioneering the development and commercialization of innovative high content label-free and non-invasive live cell imaging and analysis solutions.

Nanolive's breakthrough live cell imaging and analysis platforms accelerate research in biopharmaceutical drug discovery and development. The Swiss company's innovative solutions combine imaging and AI analysis to radically advance how scientists study living cells and provide novel biological insights to disease mechanisms and drug solutions.

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