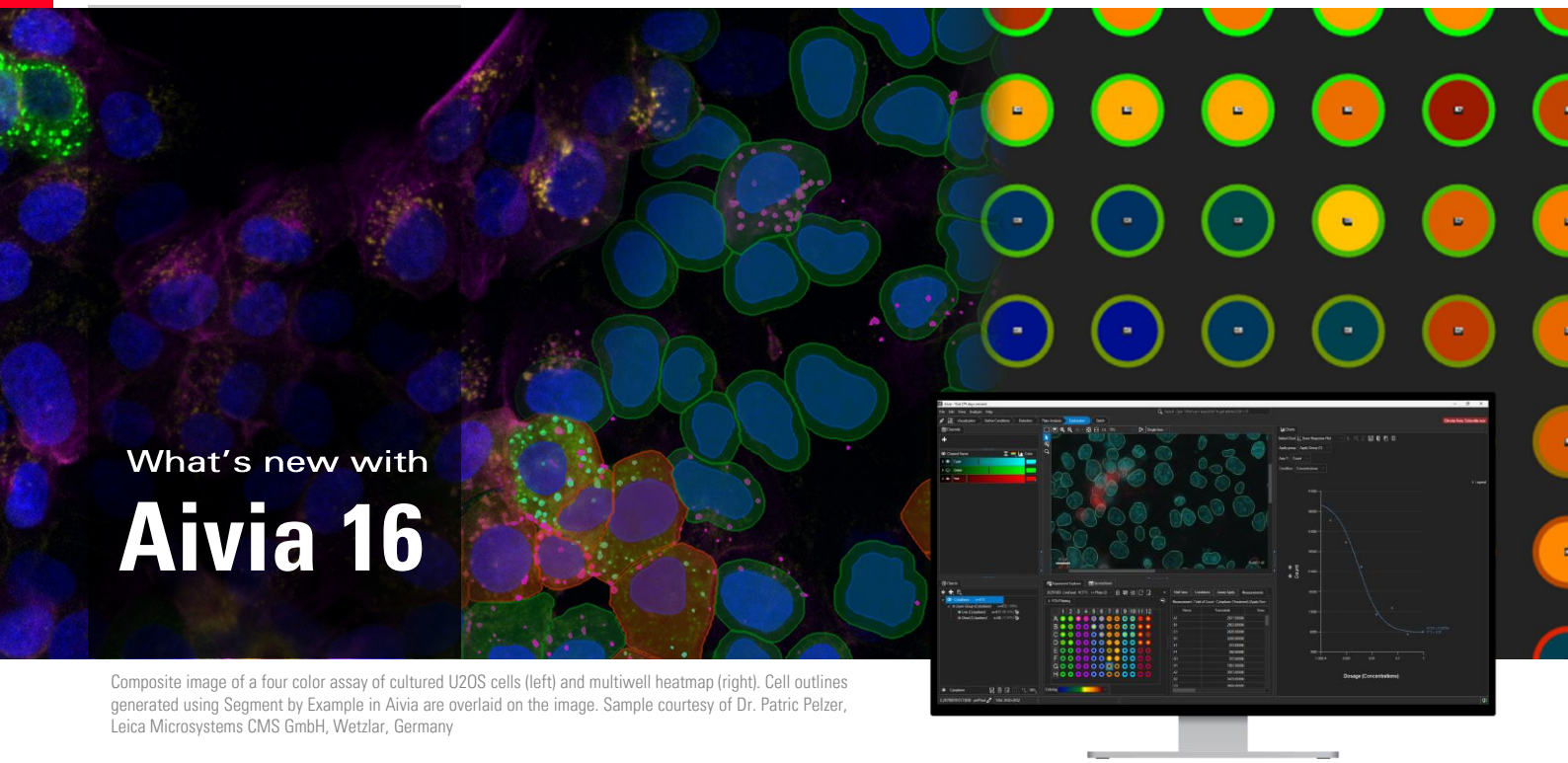
From Eye to Insight

Leica MICROSYSTEMS

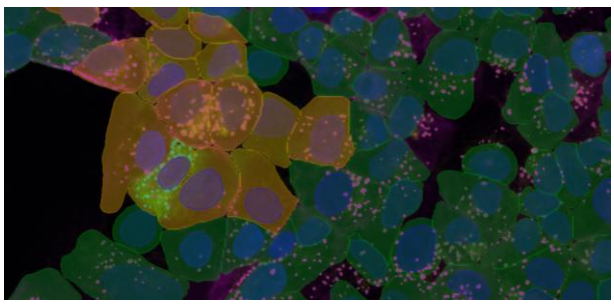


Composite image of a four color assay of cultured U2OS cells (left) and multiwell heatmap (right). Cell outlines generated using Segment by Example in Aivia are overlaid on the image. Sample courtesy of Dr. Patric Pelzer, Leica Microsystems CMS GmbH, Wetzlar, Germany

UNLOCK AI-POWERED INSIGHTS FOR MULTI-WELL ASSAYS

Accelerate Segmentation and Phenotyping

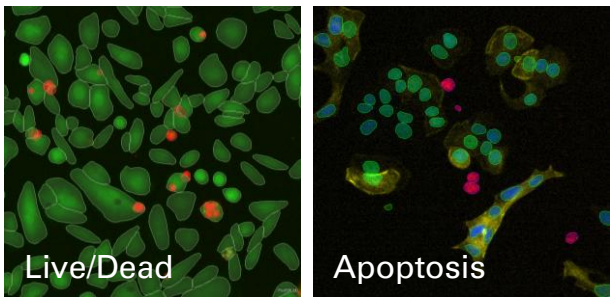
- Achieve accurate and robust segmentation using only three examples of objects with myriads of morphologies
- Leverage next-gen Segment by Example for multi-compartment spatial exploration in 2D
- Streamline image to phenotypic insights for 2D and 3D multiplex assays with multi-channel support
- Detect cells, nuclei, and other objects up to 12.8x faster



Detect objects with myriad morphologies with ease and explore the spatial interaction between the cell, nuclei, and other subcellular objects with the reimagined Segment by Example. Monolayer of U2OS cells are seeded on a 96-well plate at different cell density. The cells are stained with nuclei (SPY555), actin (ATTO647N), WGA (AF405), and MX1 (GFP) and imaged on a MICA system using a HC PL APO 20x/0.75 dry objective. Image Courtesy: Dr. Patric Pelzer, Leica Microsystems CMS GmbH.

Simplify Assay Analysis

- Extract meaningful insights with robust, AI-powered cell detection guided workflow for multi-well assays
- Choose from four pre-built Guided Sequences: counting, morphological, apoptosis, and live/dead assays; or import custom sequences for advanced analysis
- Link batch image analysis to aggregate phenotype comparisons of different conditions for the entire plate



(Left) Live/Dead Assay - CHO cells are incubated with various concentration of staurosporine (from 0 µM to 0.4 µM) for 24 hours and stained with Calcein AM (green) and Ethidium homodimer-1 (red). (Right) Apoptosis Assay – T47D cells are treated with peroxide for 60 minutes. Nuclei are fluorescently labelled with Hoechst 33342 (blue), EGFP (green), and CellTracker DeepRed (red) for apoptosis activity. Both images are acquired on the MICA system with a HC PL Fluotar 10x/0.32 dry objective. Image Courtesy: Dr. Patric Pelzer, Leica Microsystems CMS GmbH.

ACCELERATE ANALYSIS WITH FEWER INPUTS

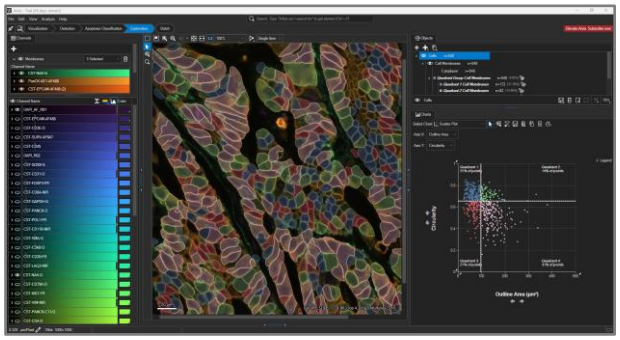
Speed Up Multi-well Assay Insights

- Import multi-well files from Mica and STELLARIS (LIF or XLEF) directly into Aivia for streamlined analysis
- Navigate and review images and experiments efficiently with the revamped Experiment Explorer
- Optimize analysis workflow using a few training examples and batch process across entire experiment

Navigate between wells and experiment conditions seamlessly and review aggregate analysis results for the entire plate. Extract insights from multi-well heatmap, dose response curve, and IC50/EC50 calculation per experiment condition

Gain Clarity with Interactive Data Visualization

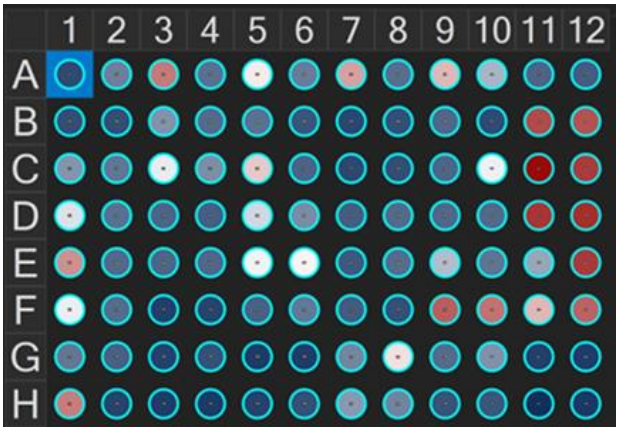
- Visualize data trends with advanced charting for data summarized per well, condition, plate, and phenotype
- Generate visual insights from multi-well heatmaps, dose response curves, and automatic IC50/EC50 calculations
- Apply quadrant gating in scatterplots and reuse gating strategies
- Export aggregated results for downstream analysis in SPSS, Excel, and more



Filter analysis data with a single-click to quickly gate data by quadrant in the scatterplot. Save and reuse the gating rules across whole experiment for reproducible data interpretation

Extend Beyond Assay Analysis

- Explore large datasets smoothly with enhanced multi-TB data visualization
- Import TauContrast files with average arrival time input
- Speed time to phenotype analysis with Self-Training Two Class Classifier
- Improve time-lapse results visualization with new track smoothing options



Review aggregate multi-well assay results quickly with multi-well heatmap in the Experiment Explorer to gather insights into cellular response in the experiment. Dive deep into the data by navigating to a select well to visualize the segmentation and phenotyping results.

Get Aivia!

Ready to unlock deeper insights and accelerate your research? Discover how AI-powered analysis can transform your multi-well assays and phenotypic studies. Experience the power of Aivia 16. Scan the QR code to request a free trial today.

CONNECT WITH US!

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