

# Apoptosis, Cytotoxicity, Mitochondrial Membrane Potential and ATP Metabolism

Incucyte® non-perturbing cell health reagents allow for kinetic readouts over multiple days for the evaluation of time-dependent and cell-specific responses to treatments.

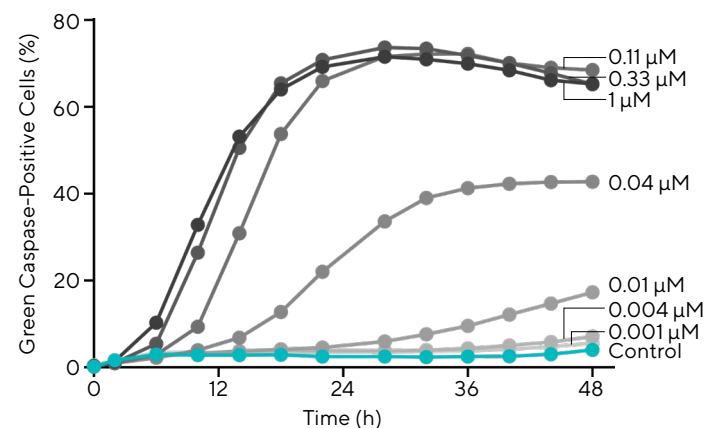
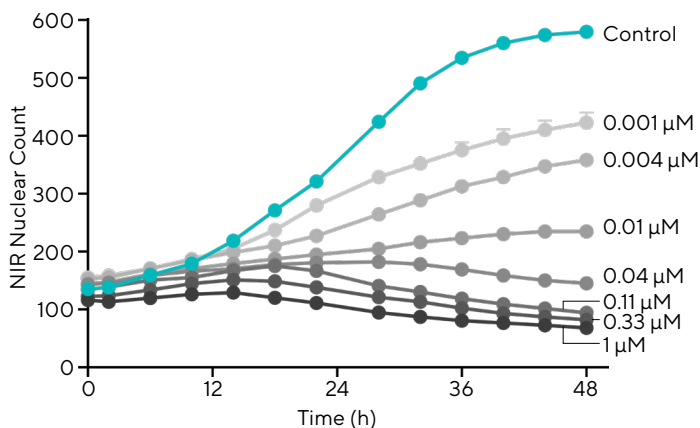
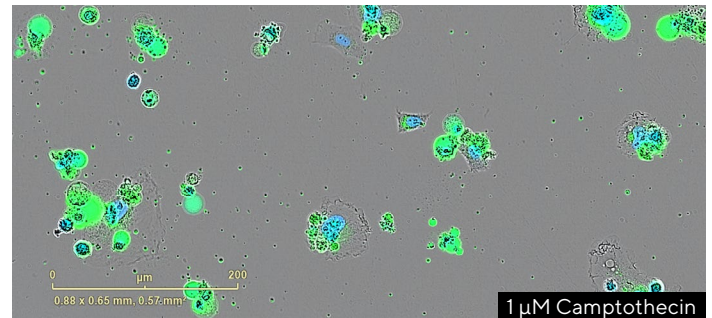
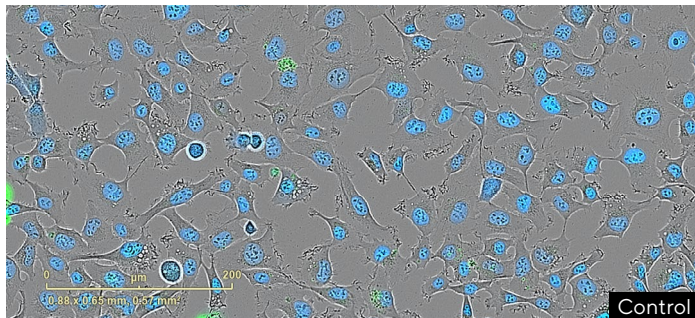
- Preserve cell health using non-perturbing, live-cell reagents to track true, artifact-free biological responses

- Reduce loss of precious or compromised cells with mix-and-read or novel genetically encoded reagents and optimized protocols
- Perform multi-parametric analysis using cell health reagent combinations within a single well to generate data rich information
- Validate results and confirm changes in cell morphology with high density (HD) phase images at every time point

## Application Spotlight: Incucyte® Apoptosis Assay

Evaluate cell death with two unique assays for apoptotic pathway analysis using specifically formulated reagents. Utilize Incucyte® Caspase-3/7 Dyes to allow direct detection of caspase-3/7 activation or Incucyte®

Annexin V Dyes to measure exposed phosphatidylserine in apoptotic cells. Enhance your insight with multiplexed measurements of nuclear counts of cell death.



HT-1080 fibrosarcoma cells stably expressing Nuclight NIR Lentivirus (pseudo-colored blue) were treated with decreasing concentrations of camptothecin in the presence of Incucyte® Caspase-3/7 Green Dye (pseudo-colored green). Representative images validate kinetic data of both cell viability and apoptotic death.

## Ordering Information

	Product	Description	Cat. No.	Instrument Compatibility
<b>Software</b>	Perform label-free cell counts and subsequent cell-by-cell classification based on shape, size or fluorescence intensity to quantify dynamic changes in cell subsets within heterogeneous living cell cultures with Cell-by-Cell Analysis Software Module. Perform counts and track changes in adherent cell morphology via label-free image segmentation and multivariate analysis of cell shape. Classifier is trained using control wells. Advanced Label-Free Classification Software Module an add-on and requires Incucyte® Cell-by-Cell Analysis Software Module (Cat. No. 9600-0031).			
	Incucyte® Cell-by-Cell Analysis Software Module	1 module	9600-0031	SX5, S3, SX1
	Incucyte® Advanced Label-Free Classification Analysis Software Module	1 module	BA-04867	SX5, S3, SX1
<b>Caspase Activity Reagents</b>	Inert, non-fluorescent (DEVD) substrates that freely cross the cell membrane where they can be cleaved by activated caspase-3/7 to release a DNA-binding fluorescent label.			
	Incucyte® Caspase-3/7 Green Dye	One vial: 20 µL (100-200 tests)	4440	SX5, S3, SX1
	Incucyte® Caspase-3/7 Red Dye	One vial: 20 µL (100-200 tests)	4704	SX5 (configured with Green/Red Optical Module), S3, SX1
	Incucyte® Caspase-3/7 Dye for Metabolism	One vial: 20 µL (100-200 tests)	4776	SX5 (configured with SX5 Metabolism Optical Module)
<b>Apoptosis Plasma Membrane Integrity Reagents</b>	Membrane impermeable, highly-selective phosphatidylserine (PS) cyanine fluorescent dyes label PS exposure on the extracellular surface of cells undergoing apoptosis.			
	Incucyte® Annexin V Green Dye	One vial: 100-200 tests	4642	SX5, S3, SX1
	Incucyte® Annexin V Red Dye	One vial: 100-200 tests	4641	SX5 (configured with Green/Red Optical Module), S3, SX1
	Incucyte® Annexin V Orange Dye	One vial: 100-200 tests	4759	SX5
	Incucyte® Annexin V NIR Dye	One vial: 100-200 tests	4768	SX5
<b>Cytotoxicity Reagents</b>	Highly sensitive cyanine-based dyes that do not enter living cells. When the cell membrane is compromised, it enters the cell, binds to DNA, and becomes fluorescent. Dye does not enter cells with intact cell membranes.			
	Incucyte® Cytotox Green Dye	Five vials: 5 µL (100 tests each)	4633	SX5, S3, SX1
	Incucyte® Cytotox Red Dye	Five vials: 5 µL (100 tests each)	4632	SX5 (configured with Green/Red Optical Module), S3, SX1
	Incucyte® Cytotox NIR Dye	One vial: 100 µL (500-100 tests)	4846	SX5
<b>New! Mitochondrial Membrane Potential (MMP)</b>	Fluorescent dye that diffuses across the intermembrane space and accumulates in proportion to the MMP. Shifts in fluorescent intensity denote mitochondrial membrane potential state. Requires Incucyte® Cell-by-Cell Analysis Software Module for analysis.			
	<b>New!</b> Incucyte® MMP Orange Reagent Kit:	One kit	4775	SX5
	▪ MMP Orange Dye	One vial: 30 µL (200 tests)		
	▪ FCCP	One vial: 10 µL (16 tests)		
	▪ Oligomycin A	One vial: 10 µL (16 tests)		
<b>New! ATP Metabolism</b>	Direct, kinetic measurement of ATP to analyze changes of cancer cell metabolism in advanced cell models.			
<b>Software</b>	Enables analysis of ATP dynamics by capturing fluorescent images while qualitatively monitoring associated changes in cell morphology in each well of a 96- or 384-well plate.			
	<b>New!</b> Incucyte® ATP Analysis Software Module	1 module	9600-0033	SX5 (configured with SX5 Metabolism Optical Module)
<b>Metabolism Reagent</b>	Genetically-encoded fluorescent ATP indicator for direct measurements of cytosolic ATP in living cells.			
	<b>New!</b> Incucyte® CytoATP Lentivirus (puro)	One vial: 0.2 mL	4772	SX5 (configured with SX5 Metabolism Optical Module)