NucView® 488 Caspase-3 Assay Kit for Live Cells

Green fluorescent caspase-3/7 substrate for detecting apoptosis in intact cells by confocal microscopy, flow cytometry, or real-time live cell imaging.

Product attributes

Apoptosis/viability marker	Caspase
For live or fixed cells	For live/intact cells
Assay type/options	Endpoint assay, Homogeneous assay, Long term staining (24-72h), No-wash staining, Real-time imaging
Detection method/readout	Fluorescence microscopy, Live cell imaging, Flow cytometry
Substrate specificity	Caspases
Colors	Green
Fixation options	Fix after staining (formaldehyde), Permeabilize after staining
Excitation/Emission	500/530 nm (with DNA)
Storage Conditions	Store at 2 to 8 °C, Protect from light

Product Description

NucView® 488 Caspase-3 substrate is a novel cell membrane-permeable fluorogenic caspase substrate designed for detecting caspase-3 activity within live cells in real time. See a video of NucView® 488 in action.

Unlike conventional caspase assays, NucView® 488 Caspase-3 substrate detects caspase-3 activity within individual intact cells without cell lysis or inhibition of caspase-3 activity. The substrate consists of a fluorogenic DNA dye and a DEVD substrate moiety specific for caspase-3. The substrate, which is both non-fluorescent and nonfunctional as a DNA dye, rapidly crosses cell membranes to enter the cytoplasm, where it is cleaved by caspase-3 to form a high-affinity DNA dye that stains the nucleus bright green. Thus, the NucView® 488 caspase-3 substrate is bi-functional, allowing detection of intracellular caspase-3 activity and visualization of changes in nuclear morphology during apoptosis. The fluorescent staining produced in response to caspase-3 activity is compatible with subsequent fixation and permeabilization for immunostaining.

The kit contains NucView® 488 Caspase-3 substrate and a caspase-3 inhibitor Ac-DEVD-CHO. The number of assays per kit is based on 5 uM substrate concentration in 200 uL assay volume; actual number of assays may vary based on concentration and staining volume used.

We also offer NucView® 488 Caspase-3 Substrate at 1 mM in DMSO (10402) or 1 mM in PBS (10403), for customers who wish to control the concentration of DMSO in their assay. Note that in cell types that are not sensitive to DMSO, the presence of DMSO during substrate incubation can enhance signal. See our full selection of NucView® substrates and kits.

NucView® enzyme substrate technology is covered by U.S. Patents.

References

Cen, et al. DEVD-NucView488: a novel class of enzyme substrates for real-time detection of caspase-3 activity in live cells. FASEB J. (2008) 22(7), 2243-52. doi: 10.1096/fj.07-099234

Download a full list of references: Validated cell lines for NucView® 488 with references