

Cleaved Caspase-3 Staining Kit (Red) ab65617

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Overview

Product name	Cleaved Caspase-3 Staining Kit (Red)
Sample type	Adherent cells, Suspension cells
Assay type	Enzyme activity
Assay time	2h 00m
Product overview	Cleaved Caspase-3 Staining Kit (Red) ab65617 provides a convenient means for detecting activated Caspase-3 in living cells. The assay utilizes the Caspase-3 inhibitor DEVD-FMK conjugated to sulfo-rhodamine (Red-DEVD-FMK) as the fluorescent in situ marker. Red-DEVD-FMK is cell permeable, nontoxic, and irreversibly binds to activated caspase-3 in apoptotic cells.
Notes	This product is manufactured by BioVision, an Abcam company and was previously called K193 CaspGLOW™ Red Active Caspase-3 Staining Kit. K193-100 is the same size as the 100 test size of ab65617.
Platform	Microplate reader, Fluor. microscope, Flow cyt.

Properties

Storage instructions Store at -20°C. Please refer to protocols.

Components	100 tests
Red-DEVD-FMK	1 x 100µl
Wash Buffer IV	2 x 100ml
Z-VAD-FMK	1 x 10µl

Relevance

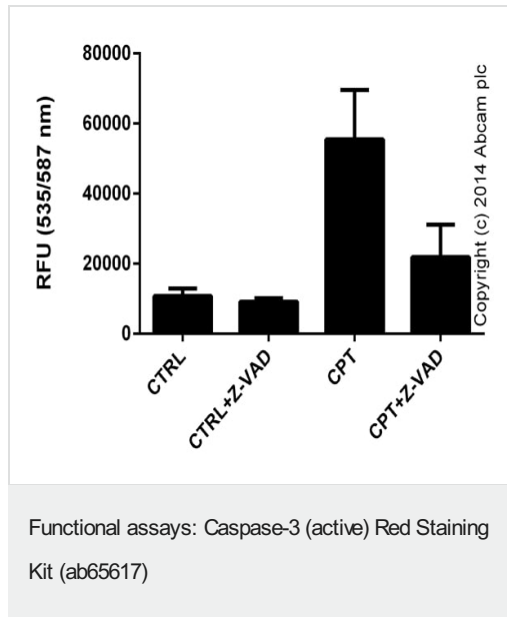
The caspase family of cysteine proteases play a key role in apoptosis. Caspase 3 (also known as CPP32, YAMA and apopain) is the most extensively studied apoptotic protein among caspase family members. Caspase 3 is synthesized as an inactive pro enzyme that is processed in cells undergoing apoptosis by self proteolysis and/or cleavage by other upstream proteases (e.g. Caspases 8, 9 and 10). The processed form of Caspase 3 consists of large (17kD) and small (12kD) subunits which associate to form an active enzyme. Caspase 3 is cleaved at Asp28 - Ser29 and Asp175 - Ser176. The active Caspase 3 proteolytically cleaves and activates other caspases (e.g. Caspases 6, 7 and 9), as well as relevant targets in the cells (e.g. PARP and DFF). Alternative splicing of this gene results in two transcript variants which encode the same

protein. In immunohistochemical studies Caspase 3 expression has been shown to be widespread but not present in all cell types (e.g. commonly reported in epithelial cells of skin, renal proximal tubules and collecting ducts). Differences in the level of Caspase 3 have been reported in cells of short lived nature (eg germinal centre B cells) and those that are long lived (e.g. mantle zone B cells). Caspase 3 is the predominant caspase involved in the cleavage of amyloid beta 4A precursor protein, which is associated with neuronal death in Alzheimer's disease.

Cellular localization

Cytoplasmic

Images



Caspase-3 activity in Jurkat cells (3×10^5 cells) following 24 hour exposure to 2 μ M Camptothecin ([ab120115](#)) with or without 50 μ M caspase inhibitor Z-VAD(OMe)-FMK ([ab120487](#)). Background signal subtracted, duplicates; +/- SD.

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