

## Product datasheet

# Cleaved Caspase-3 Staining Kit (FITC) ab65613

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### Overview

<b>Product name</b>	Cleaved Caspase-3 Staining Kit (FITC)
<b>Sample type</b>	Adherent cells, Suspension cells
<b>Assay type</b>	Enzyme activity
<b>Assay time</b>	2h 00m
<b>Product overview</b>	Cleaved Caspase-3 Staining Kit (FITC) ab65613 provides a convenient means for sensitive detection of activated Caspase-3 in living cells.

The cleaved caspase 3 assay utilizes the Caspase-3 inhibitor, DEVD-FMK, conjugated to FITC (FITC-DEVD-FMK) as a marker. FITC-DEVD-FMK is cell permeable, non-toxic, and irreversibly binds to activated Caspase-3 in apoptotic cells. The FITC label allows detection of activated / cleaved caspase-3 in apoptotic cells directly by fluorescence microscopy, flow cytometry, or fluorescence plate reader.

**Notes** Previously called Caspase-3 (active) FITC Staining Kit

#### Other caspase and apoptosis assays

Review the full set of [caspase assays](#), or the [apoptosis assay and apoptosis marker guide](#).

**Platform** Microplate reader, Fluor. microscope, Flow cyt.

### Properties

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

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

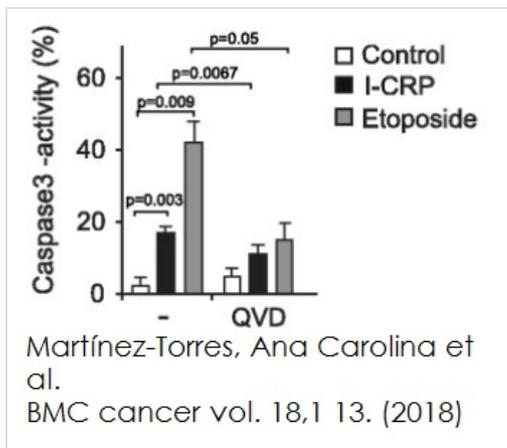
**Relevance** The caspase family of cysteine proteases play a key role in apoptosis. Caspase 3 (also known as CPP32, YAMA and apopain) is the most extensively studied apoptotic protein among caspase family members. Caspase 3 is synthesized as an inactive pro enzyme that is processed in cells undergoing 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**

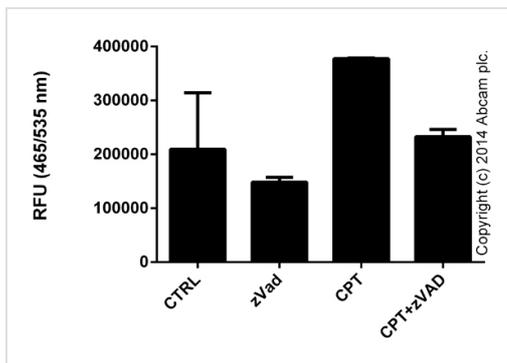
Cytoplasmic

**Images**



Caspase-3 activation was measured by flow cytometry, using ab65613, in cells that were left alone or pretreated with QVD.oph and then treated with I-CRP (1.25 U/ml) or a drug that induces DNA strand breaks (100 μM) for 24 h, data was then analyzed and graphed.

Functional Studies - Caspase-3 (active) FITC Staining Kit (ab65613)  
 Martínez-Torres, Ana Carolina et al., BMC cancer?vol. 18,1 13., Fig 6, doi:10.1186/s12885-017-3954-5



Caspase-3 in Jurkat cells following 24 hour exposure to 2 μM Camptothecin (CPT; [ab120115](#)) with or without 20 nM caspase inhibitor Z-VAD(OMe)-FMK (zVAD; [ab120487](#)). Background signal subtracted, duplicates; +/- SD.

Functional assays: Caspase-3 (active) FITC Staining Kit (ab65613)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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