

# Caspase-3 Inhibitor Assay Kit ab102491

[1 References](#) [3 Images](#)

## Overview

<b>Product name</b>	Caspase-3 Inhibitor Assay Kit
<b>Detection method</b>	Fluorescent
<b>Sample type</b>	Inhibitor compounds
<b>Assay type</b>	Quantitative
<b>Assay time</b>	1h 30m
<b>Product overview</b>	<p>Abcam's Caspase-3 Inhibitor Drug Detection Kit provides an effective means for screening caspase inhibitors using fluorometric methods. The assay utilizes synthetic peptide substrate DEVD-AFC (AFC, 7-amino-4-trifluoromethyl coumarin). Active Caspase-3 cleaves the synthetic substrate to release free AFC which can then be quantified by fluorometry. Compounds to be screened can directly be added to the reaction and the level of inhibition of Caspase-3 activity can be determined by comparison of the fluorescence intensity in samples with and without the testing inhibitors.</p> <p>Visit our <a href="#">FAQs page</a> for tips and troubleshooting.</p>
<b>Notes</b>	<p>This product is manufactured by BioVision, an Abcam company and was previously called K153 Caspase-3 Inhibitor Drug Screening Kit (Fluorometric). K153-100 is the same size as the 100 test size of ab102491.</p> <p>Caspases have been shown to play a crucial role in apoptosis induced by various deleterious and physiologic stimuli. Inhibition of caspases can delay apoptosis, implicating a potential role in drug screening efforts.</p>
<b>Platform</b>	Microplate reader

## Properties

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

Components	100 tests
2X Reaction Buffer	1 x 10ml
Active Caspase-3	1 x 100 units
Caspase Substrate DEVD-AFC	1 x 0.5ml

Components	100 tests
Caspase-3 Inhibitor	1 x 10µl
DTT	1 x 100µl

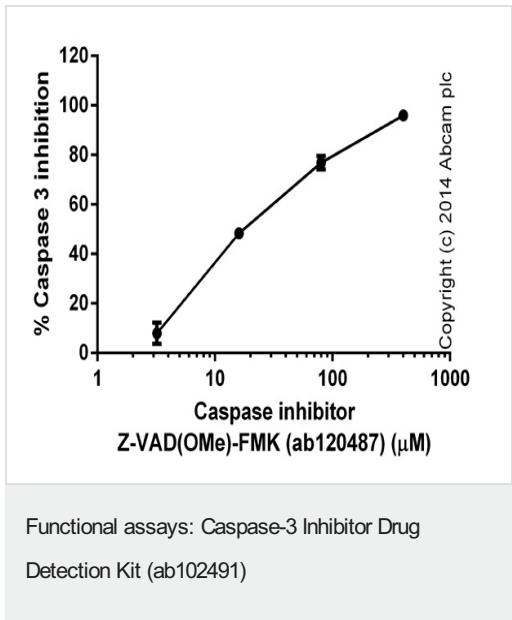
### Relevance

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.

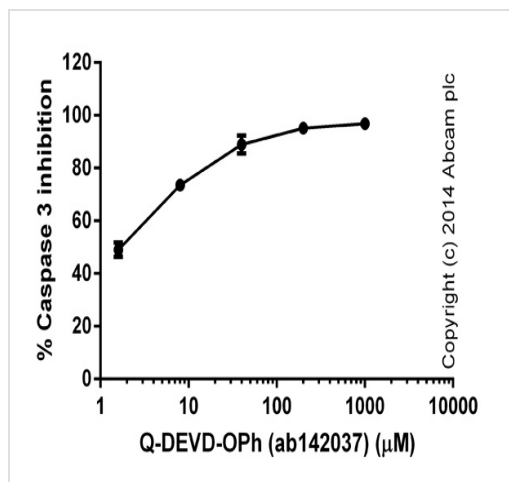
### Cellular localization

Cytoplasmic

### Images

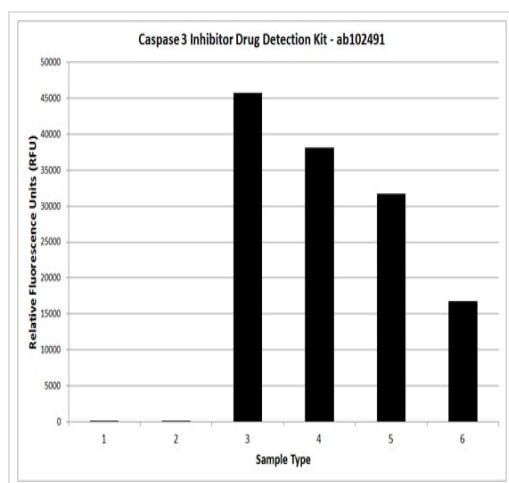


Titration of the Caspase inhibitor Z-VAD(OMe)-FMK ([ab120487](#)) (duplicates; +/- SD).



Titration of the Caspase-3 specific inhibitor Q-DEVD-OPh ([ab142037](#)) (duplicates; +/- SD).

Functional assays: Caspase-3 Inhibitor Drug  
Detection Kit (ab102491)



Caspase-3 Inhibitor Drug Detection Kit (ab102491)

Caspase activity (RFU) in presence of 0μM - 40μM of z-VAD-FMK (generic caspase inhibitor), assessed using DEVD-AFC as caspase-3 substrate and following Caspase-3 Inhibitor Drug Detection Kit (ab102491) protocol. Lanes:

- 1.- Background Control: no Caspase-3, no z-VMAD-FMK
- 2.- Positive Inhibition Control: +Caspase-3, +z-VAD-FMK
- 3.- Positive Control: +Caspase-3, no z-VAD-FMK
- 4.- Caspase-3 + 2.5μM z-VAD-FMK
- 5.- Caspase-3 + 10μM z-VAD-FMK
- 6.- Caspase-3 + 40μM z-VAD-FMK

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

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