

## Product datasheet

# Caspase-9 Inhibitor Assay Kit ab102497

4 Images

### Overview

<b>Product name</b>	Caspase-9 Inhibitor Assay Kit
<b>Detection method</b>	Fluorescent
<b>Sample type</b>	Adherent cells, Suspension cells
<b>Assay type</b>	Quantitative
<b>Assay time</b>	1h 30m
<b>Product overview</b>	<p>Abcam's Caspase 9 Inhibitor Drug Detection Kit provides an effective means for screening caspase inhibitors using fluorometric methods. The assay utilizes synthetic peptide substrate LEHD-AFC (AFC, 7-amino-4-trifluoromethyl coumarin). Active caspase 9 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 9 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>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

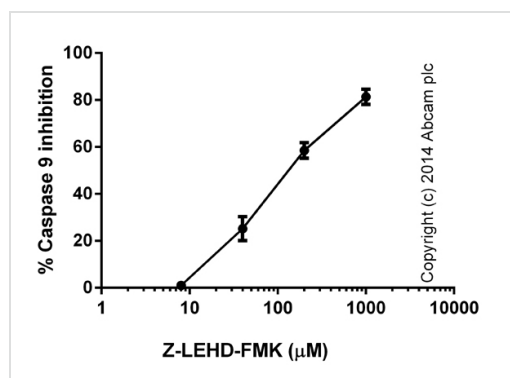
**Storage instructions** Store at -20°C. Please refer to protocols.

Components	100 tests
2X Reaction Buffer	1 x 10ml
Active Caspase-9	1 x 100 units
Caspase Inhibitor, Z-VAD-FMK (2 mM)	1 x 10µl
Caspase Substrate LEHD-AFC (1 mM)	1 x 0.5ml
DTT (1 M)	1 x 100µl

## Relevance

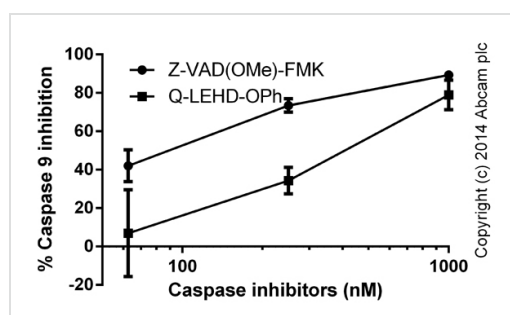
Caspases are cysteine proteases, expressed as inactive precursors, that mediate apoptosis by proteolysis of specific substrates. Caspases have the ability to cleave after aspartic acid residues. There are two classes of caspases involved in apoptosis; initiators (activation by receptor cluster) and effectors (activation by mitochondrial permeability transition). Proapoptotic signals autocatalytically activate initiator caspases, such as Caspase 8 and Caspase 9. Activated initiator caspases then process effector caspases, such as Caspase 3 and Caspase 7, which in turn cause cell collapse. Caspase 9 (also known as ICE like apoptotic protease 6 (ICE LAP6), apoptotic protease Mch6, and apoptotic protease activating factor 3 (Apaf3)) is a member of the peptidase family C14 that contains a CARD domain. It is active as a heterotetramer and has been reported to have two isoforms. ProCaspase 9 is approximately 47 kD. It is present in the cytosol and, upon activation, translocates to the mitochondria. Caspase 9 is involved in the caspase activation cascade responsible for apoptosis execution and cleaves/activates Caspase 3 and Caspase 6. It becomes activated when recruited to the Apaf1/cytochrome c complex.

## Images



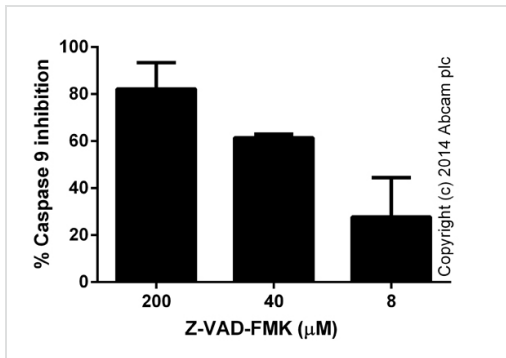
Titration of the caspase 9 inhibitor Z-LEHD-FMK ([ab142026](#)) (duplicates; +/- SD).

Functional assays: Caspase 9 Inhibitor Drug  
Detection Kit ([ab102497](#))



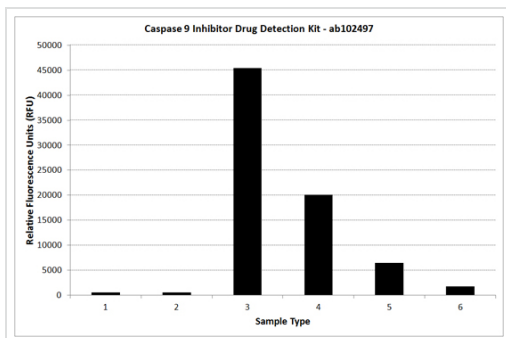
Titration of the caspase inhibitors Z-VAD(OMe)-FMK ([ab120487](#)) and Q-LEHD-Oph ([ab142039](#)) (duplicates; +/- SD).

Functional assays: Caspase 9 Inhibitor Drug  
Detection Kit ([ab102497](#))



Titration of caspase inhibitor Z-VAD-FMK (ab102497) (duplicates; +/- SD).

Functional assays: Caspase 9 Inhibitor Drug Detection Kit (ab102497)



Caspase activity (RFU) in presence of 0μM - 40μM of z-VAD-FMK (generic caspase inhibitor), assessed using LEHD-AFC as caspase 9 substrate and following Caspase 9 Inhibitor Drug Detection Kit (ab102493) protocol. Lanes:

Caspase 9 Inhibitor Drug Detection Kit

- 1.- Background Control: no Caspase 9, no z-VAD-FMK
- 2.- Positive Inhibition Control: no Caspase 9, +z-VAD-FMK
- 3.- Positive Control: + Caspase 9, no z-VAD-FMK
- 4.- Caspase 9 + 2.5μM z-VAD-FMK
- 5.- Caspase 9 + 10μM z-VAD-FMK
- 6.- Caspase 9 + 40μM z-VAD-FMK

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