abcam

Product datasheet

Caspase-1 Assay Kit (Fluorometric) ab39412

32 References 2 Images

Overview

Product name	Caspase-1 Assay Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Tissue Extracts, Cell Lysate
Assay type	Enzyme activity
Assay time	2h 00m
Product overview	Caspase-1 Assay Kit (Fluorometric) (ab39412) provides a simple and convenient method for detecting the activity of caspase-1, which recognizes the sequence YVAD. The caspase-1 assay protocol is based on the cleavage of substrate YVAD-AFC (AFC: 7-amino-4-trifluoromethyl coumarin). YVAD-AFC emits blue light (Em=400 nm); upon cleavage of the substrate by caspase-1 or related caspases, free AFC emits a yellow-green fluorescence (Ex/Em=400/505 nm), which can be quantified using a fluorometer or a fluorecence microtiter plate reader. Comparison of the fluorescence from a treated sample with an untreated control allows determination of the fold increase in caspase-1 activity. Caspase-1 assay protocol summary: - add samples to wells - add reaction buffer and YVAD-AFC substrate and incubate for 1-2 hr - analyze with a microplate reader
Notes	This product is manufactured by BioVision, an Abcam company and was previously called K110 Caspase-1 Fluorometric Assay Kit. K110-100 is the same size as the 100 test size of ab39412. Caspase-1 (ICE, IL-1beta Converting Enzyme) is the prototypical member of the ICE family of proteases/caspases. **Other caspase and apoptosis assays** Review the full set of **caspase assays**, or the **apoptosis assay and apoptosis marker guide**.
Platform	Microplate reader

Properties

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

Components	100 tests
2X Reaction Buffer I	4 x 2ml
DTT I	1 x 0.4ml
Lysis Buffer IV	1 x 100ml
YVAD-AFC	1 x 0.5ml

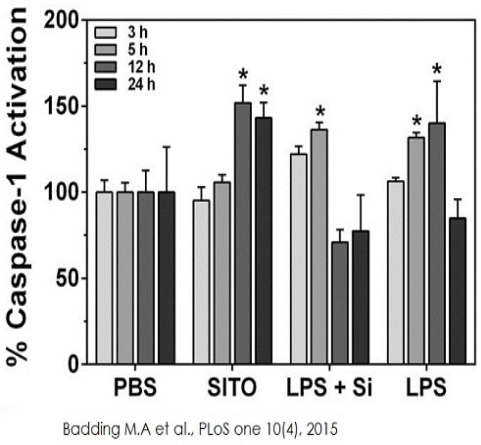
Relevance

Caspases are a family of cysteine proteases that are key mediators of programmed cell death or apoptosis. The precursor form of all caspases is composed of a prodomain, and large and small catalytic subunits. The active forms of caspases are generated by several stimuli including ligand-receptor interactions, growth factor deprivation and inhibitors of cellular functions. All known caspases require cleavage adjacent to aspartates to liberate one large and one small subunit, which associate into a2b2 tetramer to form the active enzyme. Caspase 1 is similar to the cell death gene CED3 of C. elegans and regulates multiple proinflammatory cytokines, including Interleukin 1b and interferon-gamma-inducing factor. Caspase 1 plays a role in down stream of Caspase 8 which is involved in Fas-mediated apoptosis.

Cellular localization

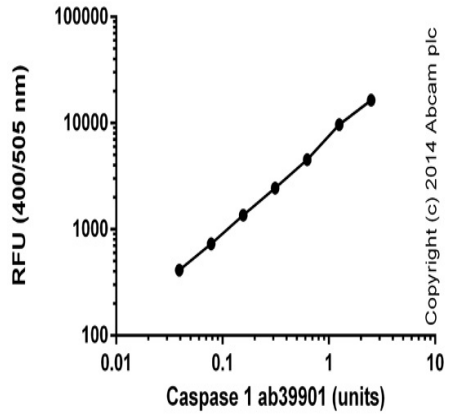
Cytoplasmic

Images



Functional assays: Caspase 1 assay kit (ab39412)

Badding M.A et al investigated the cytotoxicity of Indium-tin oxide (ITO). Previously,ITO had shown to be cytotoxic in cultured cells and pro-inflammatory in pulmonary animal models. ITO is used to make transparent conductive coatings for touch screens and liquid crystal display electronics. RAW cells were plated at 5 x 10^5 cells/well and treated with SITO, LPS, or Min-U-sil (cells were first primed with LPS). Cells were washed, lysed, and 100 µg of lysates were assayed using Caspase 1 assay kit (ab39412). PBS was used as a control. All conditions were run in duplicate wells and three independent experiments were performed for each time point.



Functional assays: Caspase 1 Assay Kit (Fluorometric) (ab39412)

Titration of the caspase 1 (**ab39901**) (background signal subtracted, duplicates; +/- SD).

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