

Caspase-10 (active) Staining Kit - Green Fluorescence

ab219937

2 Images

Overview

Product name	Caspase-10 (active) Staining Kit - Green Fluorescence
Detection method	Fluorescent
Sample type	Adherent cells, Suspension cells
Assay type	Cell-based
Species reactivity	Reacts with: Mammals, Other species
Product overview	Caspase 10 (active) Staining Kit - Green Fluorescence (ab219937) is a sensitive fluorometric assay to measure caspase 10 activation in live cells. The assay uses FAM-AEVD-FMK, which binds irreversibly to active caspase 10 in apoptotic cells. The fluorescent intensity of the FAM-AEVD-FMK signal is proportional to the amount of active caspase 10 and can be easily detected at Ex/Em = 490/525 nm by fluorescence microscopy, flow cytometer, or fluorescent microplate reader.
Notes	Caspase activity assay kits are based on fluorescent inhibitors of caspases. These inhibitors are cell permeable and non-cytotoxic. Once inside the cell, the caspase inhibitors bind covalently to the active caspases. Caspase 10 plays an important role in death receptor signaling and apoptosis induction. It has been proven that caspase 10 has substrate selectivity for the peptide sequence Ala-Glu-Val-Asp (AEVD). This kit uses FAM-AEVD-FMK as a fluorescent indicator for caspase 10 activity. FAM-AEVD-FMK irreversibly binds to activated caspase 10 in apoptotic cells. Once bound to caspase 10, the fluorescent reagent is retained inside the cell. The binding event inhibits caspase 10 but will not stop apoptosis from proceeding.
Platform	Microplate reader, Fluor. microscope, Flow cyt.

Properties

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

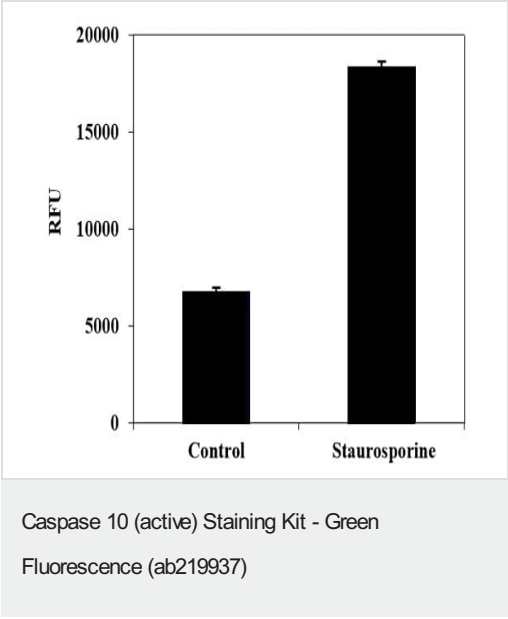
Components	25 tests
500X Hoechst	1 vial
500X Propidium Iodide	1 vial

Components	25 tests
FAM-AEVD-FMK	1 vial
Washing Buffer	1 x 100ml

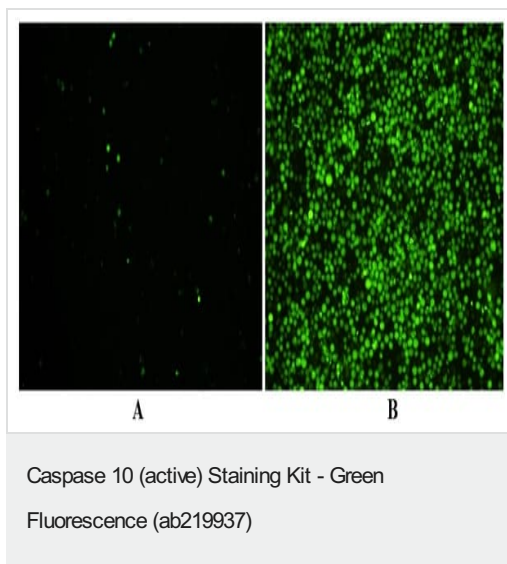
Relevance

Caspases are a family of intracellular proteases that mediate cell death and are the principal effectors of apoptosis. Caspase 10 (Mch4, ICE-LAP4, FLICE2) plays an important role in apoptosis induced by a variety of inducers such as TNF alpha. It is a large prodomain caspase classified together with caspases 2, 8, and 9 as a signaling caspase. Four isoforms of caspase 10 (caspase 10a, 10b, 10c, and 10d) having the same prodomain but different mature large and small subdomain, have been described. Caspase 10 contains two death domains (DED) involved in linking to the death effector domain of the adapter protein FADD and recruiting the complex to TNFR1 and Fas. The inactive procaspase 10 is variably expressed in many tissues and cell lines as a cytosolic protein. The mature form of caspase 10 comprises two subunits, p23/p17 (splice isoforms) and p12. Caspase 10 can cleave and activate caspases 3, 4, 6, 7, 8, and 9. This is followed by cleavage of numerous key proteins, including the nuclear protein PARP.

Images



Detection of active Caspase 10 in Jurkat cells. Jurkat cells (3 x 10⁵ cells/100 µL/well) were either untreated (control) or treated with 1 µM staurosporine for 3 hours. Cells were incubated with FAM-AEVD-FMK for 1 hour at 37°C. The fluorescent signal was measured at Ex/Em = 490/525 nm (cut off at 515 nm) with a FlexStation microplate reader (Molecular Devices) using bottom read mode.



Active caspase 10 staining in Jurkat cells. cells (3×10^5 cells/100 μL /well) were either untreated (A) or treated with 1 μM staurosporine for 3 hours (B). Cells were incubated with FAM-AEVD-FMK for 1 hour at 37°C. Increase in fluorescent intensity was observed using a fluorescence microscope with a FITC channel

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