

Caspase Inhibitor

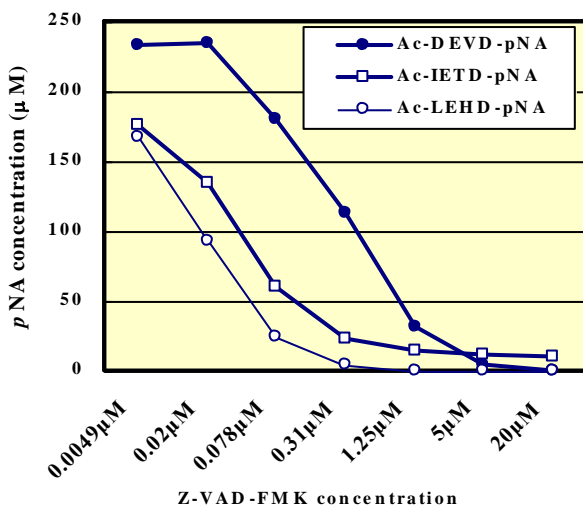
Caspase inhibitor Z-VAD-FMK

Code No.
4800-520

Quantity
20 μ L (100 mM)

BACKGROUND: Caspase is a member of the cysteine aspartic acid-specific protease family, which is activated by a variety of signals of death receptor ligation, DNA damages, serum starvation and stresses *etc.* Active caspase recognizes a lot of several molecules as substrates to cleave them, occurring to biological events corresponding to the apoptosis. For example, ICAD (inhibitor of caspase-activated deoxyrubonuclease) is inactivated and CAD (caspase-activated deoxyrubonuclease) is indirectly activated by caspase-3, and it is related to chromatin fragmentation for nucleosome units. Caspase recognizes several structural proteins as a substrate to cleave them, and the cleavage is associated with the unique apoptosis cell morphology of chromatin condensation, nucleus fragmentation and cytoplasmic integrity. Tri peptide sequence "VAD" is broadly recognized by caspases. Z-VAD-FMK is an irreversible and cell permeable powerful inhibitor for caspases.

FORMULATION: 100 mM Z-VAD-FMK in DMSO



Inhibition of caspase activity in cytosol of CH-11 treated Jurkat cells by Z-VAD-FMK. After Jurkat cells were treated with Fas monoclonal antibody CH-11 (100 ng/mL) for 4 hours, caspases activity was measured with Ac-DEVD-pNA, Ac-IETD-pNA or Ac-LEHD-pNA (each final concentration is 500 μ M) in the presence of indicated concentration of Z-VAD-FMK (code no 4800-520).

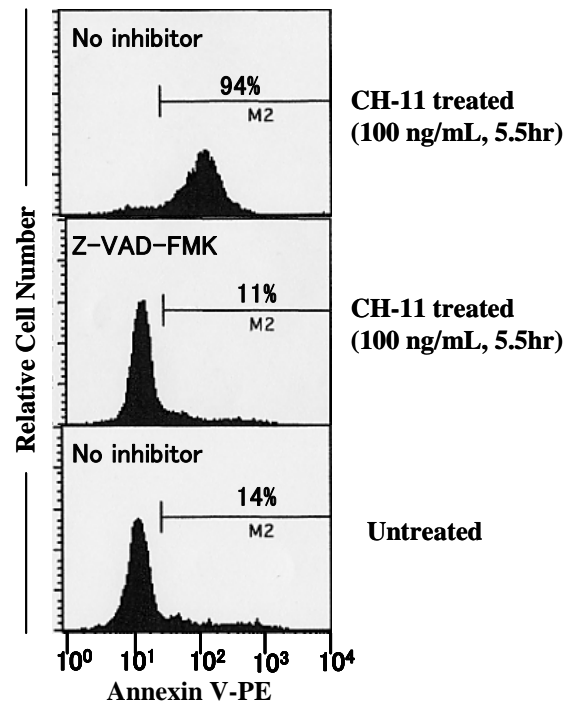
STORAGE: This product is stable for 3 years from the date of manufacture when stored at -20° C.

REFERENCE:

1) Elizabeth A. S., *et al.*, *Biochem J.*, **315**, 21-24 (1996)

RELATED PRODUCTS:

4800-510 Caspase-3 inhibitor Z-DEVD-FMK
4805-510 Caspase-8 inhibitor Z-IETD-FMK
4810-510 Caspase-9 inhibitor Z-LEHD-FMK



Flow cytometric analysis of Jurkat cells. After Jurkat cells were treated with Fas monoclonal antibody CH-11 (100 ng/mL) or with both CH-11 and 40 μ M Z-VAD-FMK (code no 4800-520) for 5.5hr, cells were stained with Annexin V-PE (code no 4696-100) to detect apoptosis. The results show that 94% of cells in CH-11 treated cells were induced apoptosis and in both CH-11 and caspase inhibitor treated cells the level of apoptosis was reduced to 11%, which was same level as untreated control. These result indicated that Z-VAD-FMK could block apoptosis by caspase completely.

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