

Caspase Inhibitor

Caspase-9 inhibitor Z-LEHD-FMK

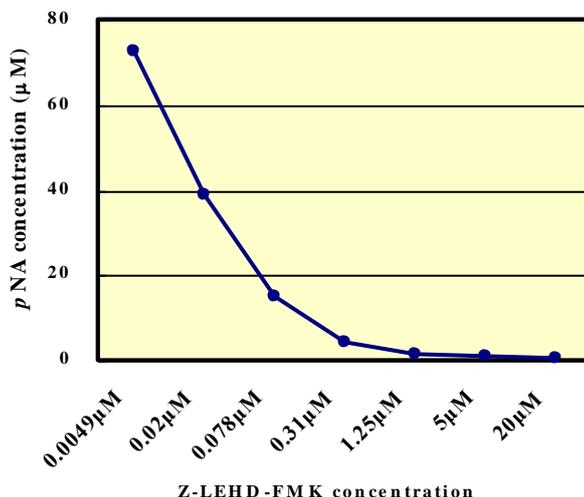
Code No.
4810-510

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 deoxyribonuclease) is inactivated and CAD (caspase-activated deoxyribonuclease) 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. Tetra peptide sequence "LEHD" is preferentially recognized by caspase-9. Z-LEHD-FMK is an irreversible and cell permeable powerful inhibitor for caspase-9.

FORMULATION: 100 mM Z-LEHD-FMK in DMSO

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



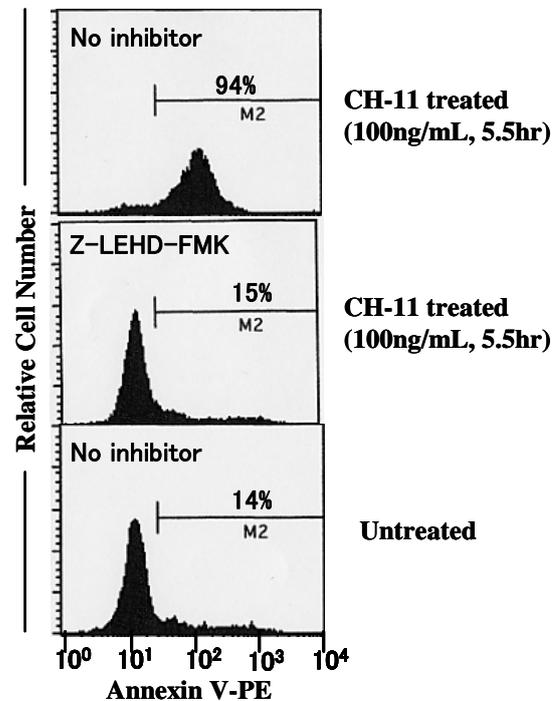
Inhibition of caspase-9 activity in cytosol of CH-11 treated Jurkat cells by Z-LEHD-FMK. After Jurkat cells were treated with Fas monoclonal antibody CH-11 (100 ng/mL) for 4 hours, caspase-9 activity was measured with Ac-LEHD-pNA (final concentration 500 μM) in the presence of indicated concentration of Z-LEHD-FMK (code no 4810-510).

REFERENCES:

- 1) Notoya K., *et al.*, *J Immunol.*, **165**, 3402-3410 (2000)
- 2) Ozoren N., *et al.*, *Cancer Res.*, **60**, 6259-65 (2000)

RELATED PRODUCTS:

- 4800-510 Caspase-3 inhibitor Z-DEVD-FMK
- 4800-520 Caspase inhibitor Z-VAD-FMK
- 4805-510 Caspase-8 inhibitor Z-IETD-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 μM Z-LEHD-FMK (code no 4810-510) 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 15%, which was same level as untreated control. These result indicated that Z-LEHD-FMK could block apoptosis by caspase-9.

040720-1.1