

Product Data Sheet

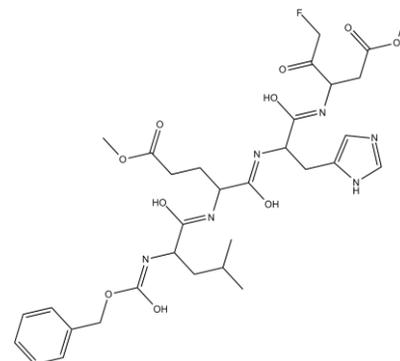
Chemical Properties

Product Name: Caspase-9 Inhibitor
Z-LEHD-FMK

Cas No.: N/A

M.Wt: 690.72

Formula: C₃₂H₄₃FN₆O₁₀



Chemical Name: (Z)-2-((Z)-(2-((E)-((benzyloxy)(hydroxy)methylene)amino)-1-hydroxy-4-methylpentylidene)amino)-N-((Z)-1-((5-fluoro-1-methoxy-1,4-dioxopentan-3-yl)imino)-1-hydroxy-3-(1H-imidazol-5-yl)propan-2-yl)-5-methoxy-5-oxopentanimidic acid

Canonical SMILES: CC(CC(/N=C(OCC1=CC=CC=C1)\O)/C(O)=N/C(/C(O)=N/C(/C(O)=N/C(C(F)=O)CC(OC)=O)CC2=CN=CN2)CCC(OC)=O)C

Solubility: Soluble in DMSO

Storage: Store at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37° C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20° C for several months.

Shopping Condition: Evaluation sample solution : ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets : Caspase Kit

Pathways: Apoptosis Kit >> Caspase Kit

Description:

Z-LEHD-FMK is a specific and irreversible inhibitor of caspase-9 [1].

Caspase-9 is an initiator caspase and plays an important role in the mitochondrial death pathway.

Caspase-9 is activated during programmed cell death and cleaves procaspase-7 and procaspase-3.

Z-LEHD-FMK is a specific and irreversible caspase-9 inhibitor. In HCT116 human colon cancer cell line and 293 human embryonic kidney cell line, Z-LEHD-FMK inhibited apoptosis mediated by tumor necrosis factor-related apoptosis-inducing ligand (TRAIL). These results suggested that TRAIL induced death through the mitochondrial pathway in some human cells. In a colony assay, Z-LEHD-FMK inhibited the reduction of colony growth of HCT116 induced by TRAIL. In normal human hepatocytes, Z-LEHD-FMK protected cells from TRAIL-induced apoptosis. These results suggested that a combination of Z-LEHD-FMK and TRAIL selectively killed cancer cells while protecting normal liver cells [1].

In rats with focal ischemia/reperfusion, Z-LEHD-FMK improved neurological outcome by 63% and reduced infarction volume by 49% [2]. In spinal cord trauma rat model, Z-LEHD-FMK reduced apoptotic cell count and protected neurons, myelin, axons, glia and intracellular organelles in the spinal cord [3].

Reference:

- [1]. Ozoren N, Kim K, Burns TF, et al. The caspase 9 inhibitor Z-LEHD-FMK protects human liver cells while permitting death of cancer cells exposed to tumor necrosis factor-related apoptosis-inducing ligand. *Cancer Res*, 2000, 60(22): 6259-6265.
- [2]. Mouw G, Zechel JL, Zhou Y, et al. Caspase-9 inhibition after focal cerebral ischemia improves outcome following reversible focal ischemia. *Metab Brain Dis*, 2002, 17(3): 143-151.
- [3]. Colak A, Karaođlan A, Barut S, et al. Neuroprotection and functional recovery after application of the caspase-9 inhibitor z-LEHD-fmk in a rat model of traumatic spinal cord injury. *J Neurosurg Spine*, 2005, 2(3): 327-334.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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