Z-WEHD-FMK

Cat. No.: HY-P0111

CAS No.: 210345-00-9

Molecular Formula: $C_{37}H_{42}FN_7O_{10}$

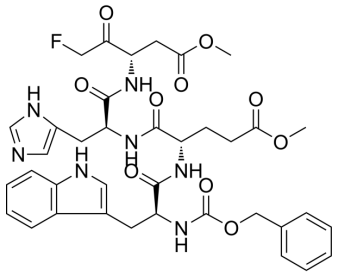
Molecular Weight: 763.77

Target: Caspase; Cathepsin

Pathway: Apoptosis; Metabolic Enzyme/Protease

Storage:

Powder	-80°C	2 years
	-20°C	1 year
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (130.93 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.3093 mL	6.5465 mL	13.0929 mL
5 mM	0.2619 mL	1.3093 mL	2.6186 mL
10 mM	0.1309 mL	0.6546 mL	1.3093 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (3.27 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.27 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Z-WEHD-FMK is a potent, cell-permeable and irreversible caspase-1/5 inhibitor. Z-WEHD-FMK also exhibits a robust inhibitory effect on cathepsin B activity (IC_{50}=6 μM). Z-WEHD-FMK can be used to investigate cells for evidence of apoptosis [1][2][4].

IC_{50} & Target		
	Cathepsin B	Caspase-1

In Vitro

Z-WEHD-FMK (80 μM; 9 hours) elicits a near-complete blockage of C. trachomatis-induced cleavage of golgin-84 and

increases GM130 expression in cells[1].

Z-WEHD-FMK (30 min before being exposed to E. piscicida) effectively inhibits 0909I E. piscicida induced ZF4 cells cytotoxicity and pyroptotic morphology. And in addition, it also inhibits the cytotoxicity induced by cytosolic LPS delivery[2].

Z-WEHD-FMK (20 μM;18-24 hours following Cr^{3+},Ni^{2+}, and Co^{2+}) significantly induces a decrease of 76% to 86% in IL-1β release with 200 to 400 ppm Cr^{3+}, it also induces a decrease of 35% to 45% with 48 ppm Ni^{2+} or higher, Finally, this caspase-1 inhibitor induced a decrease with 6 ppm Co^{2+}, down to a level below the detection threshold, and a decrease of 40% to 48% with 12 to 24 ppm Co^{2+} in bone marrow-derived macrophages (BMDM)[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	C. trachomatis- or mock-infected HeLa cells
Concentration:	80 μM
Incubation Time:	9 hours
Result:	Increased golgin-84 and GM130 expression.

Cell Viability Assay[2]

Cell Line:	Mycoplasma free-ZF4 cells
Concentration:	
Incubation Time:	30 min before being exposed to E. piscicida
Result:	Inhibited ZF4 cells cytotoxicity and pyroptotic morphology.

CUSTOMER VALIDATION

- Atherosclerosis. 2019 Oct;289:132-142.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Kamada S, et al. Caspase-4 and caspase-5, members of the ICE/CED-3 family of cysteine proteases, are CrmA-inhibitable proteases.Cell Death Differ. 1997 Aug;4(6):473-8.

[2]. Yang D, et al. Sensing of cytosolic LPS through caspy2 pyrin domain mediates noncanonical inflammasome activation in zebrafish.Nat Commun. 2018 Aug 3;9(1):3052.

[3]. Ferko MA, et al. Effects of metal ions on caspase-1 activation and interleukin-1β release in murine bone marrow-derived macrophages.PLoS One. 2018 Aug 23;13(8):e0199936.

[4]. Newman ZL, et al. CA-074Me protection against anthrax lethal toxin.Infect Immun. 2009 Oct;77(10):4327-36.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA