Z-VAD-FMK

Cat. No.: HY-16658B

CAS No.: 161401-82-7

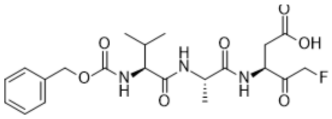
Molecular Formula: $C_{21}H_{28}FN_3O_7$

Molecular Weight: 453.46

Target: Caspase; Apoptosis

Pathway: Apoptosis

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (220.53 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2053 mL	11.0263 mL	22.0527 mL
	5 mM	0.4411 mL	2.2053 mL	4.4105 mL
	10 mM	0.2205 mL	1.1026 mL	2.2053 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: ≥ 2.08 mg/mL (4.59 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (4.59 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.59 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Z-VAD-FMK (Z-VAD(OH)-FMK) is a well-know pan caspase inhibitor, which does not inhibit ubiquitin carboxy-terminal hydrolase L1 (UCHL1) activity even at concentrations as high as 440 μM[1].

IC_{50} & Target

Caspase

In Vitro

Z-VAD-FMK (40 μM) reverses the apoptotic effect exerted by total saponin of Solanum lyratum Thunb (TSSLT) in Hela cells. HeLa cells are pretreated with Z-VAD-FMK (40 μM) for 30 min and exposed to TSSLT (6 μg/mL) for 48 h[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	HeLa cells
Concentration:	40 μM
Incubation Time:	Prtreated for 30 minutes
Result:	Prevented TSSLT-induced cell death. More than 80% cell survival was observed.

CUSTOMER VALIDATION

- Cell. 2024 Feb 1;187(3):624-641.e23.
- Science. 2021 Mar 5;371(6533):eabb2224.
- Cell Host Microbe. 2023 Nov 8;31(11):1820-1836.e10.
- Nat Microbiol. 2022 Jul;7(7):1041-1053.
- Cell Mol Immunol. 2023 Aug 17.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Davies CW, et al. The co-crystal structure of ubiquitin carboxy-terminal hydrolase L1 (UCHL1) with a tripeptide fluoromethyl ketone (Z-VAE(OMe)-FMK). Bioorg Med Chem Lett. 2012 Jun 15;22(12):3900-4.

[2]. Liu HR, et al. Antiproliferative activity of the total saponin of Solanum lyratum Thunb in Hela cells by inducing apoptosis. Pharmazie. 2008 Nov;63(11):836-42.

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