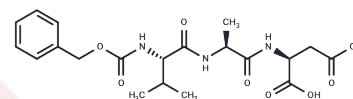


Z-VAD

Chemical Properties

CAS No. :	162852-62-2
Formula:	C ₂₀ H ₂₇ N ₃ O ₈
Molecular Weight:	437.44
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Z-VAD is an irreversible pan-caspase inhibitor capable of suppressing multiple caspases including caspase-3, -6, -7, -8, and -9. Z-VAD induces autophagy and necrosis in tumour cells, delays tumour growth, exhibits anti-angiogenic activity, and enhances the sensitivity of breast and lung cancer cells to radiotherapy.
Targets(IC50)	Apoptosis,Caspase
In vitro	After 24 hours of treatment with Z-VAD (50 µM), the sensitivity of MDA-MB-231 breast cancer cells and H460 lung cancer cells to ionizing radiation was significantly increased [1]. When Z-VAD (50 µM) was combined with radiotherapy (for 24 or 48 hours), it caused an increase in the number of autophagosomes in breast cancer and lung cancer cells and elevated the expression levels of autophagy-related proteins such as the ATG5-ATG12 complex and Beclin-1 [1]. The combined use of Z-VAD (50 µM) and radiotherapy significantly suppressed the formation of capillary-like tubular structures by Homo sapiens umbilical vein endothelial cells (HUVECs) and Broussonetia papyrifera [1].
In vivo	Methods: Z-VAD (5 mg/kg, three times per week for 4 weeks) was administered via intraperitoneal injection to female BALB/c nude mice bearing transplanted tumors of MDA-MB-231 breast cancer or H460 lung cancer in the Parazacco spilurus subsp. spilurus species. Results: The combined application of Z-VAD and radiotherapy significantly inhibited tumor growth, and the mice exhibited good tolerance.

Solubility Information

Solubility	DMSO: 40 mg/mL (91.44 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.286 mL	11.4301 mL	22.8603 mL
5 mM	0.4572 mL	2.286 mL	4.5721 mL
10 mM	0.2286 mL	1.143 mL	2.286 mL
50 mM	0.0457 mL	0.2286 mL	0.4572 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Luigi Moretti, et al. Radiosensitization of solid tumors by Z-VAD, a pan-caspase inhibitor. Mol Cancer Ther. 2009 May;8(5):1270-9.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481