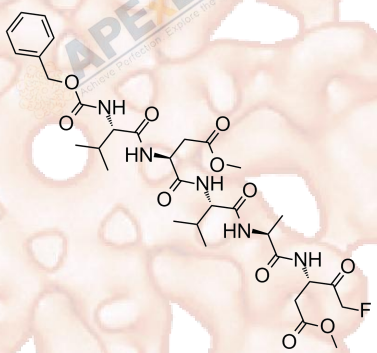
Product Data Sheet

Z-VDVAD-FMK



Cat. No.:	A1922
CAS No.:	210344-92-6
Formula:	C32H46N5O11F
M.Wt:	695.73
Synonyms:	Z-VDVAD-fluoromethylketone, Caspase-2 Inhibitor (fluoromethylketone),Z-Val-Asp(OMe)-Val-Ala-Asp(OMe)-FMK
Target:	Caspase-2
Pathway:	Apoptosis/Caspase
Storage:	Store at -20° C

Solvent & Solubility

In Vitro

⩾34.8 mg/mL in DMSO; insoluble in EtOH; insoluble in H2O

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	1.4373 mL	7.1867 mL	14.3734 mL
5 mM	0.2875 mL	1.4373 mL	2.8747 mL
10 mM	0.1437 mL	0.7187 mL	1.4373 mL

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

Biological Activity

Shortsummary	Irreversible Caspase-2 inhibitor. Attenuates oxyhemoglobin-induced cleavage of PARP and apoptosis in endothelial cells.
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Jurkat T-lymphocytes
Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining

		a higher concentration: Please warm the tube at 37 ℃ for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20℃ for several months.
	Reacting conditions:	25 or 100 μM; 1 or 22 h
	Applications:	Jurkat T-lymphocytes pretreated with 25 μM Z-VDVAD-FMK for 1 h, or stably transfected with pro-caspase-2 antisense (Casp-2/AS) are refractory to cytochrome c release stimulated by etoposide.According to the MTT-assay, Jurkat cells treated with 100 μM Z-VDVAD-FMK for 22 h prevented doxorubicin-induced nuclear apoptosis, but not cell death.
In Vivo	**Animal experiment**	
	Animal models:	C57BL/6 mice
	Dosage form:	60 μM,5 μl,intratesticular injection
	Applications:	
	Preparation method:	On pnd 13, mice were anesthetized with an intraperitoneal injection of 0.01 mg/g sodium pentobarbital, and a midline incision was performed. The testes were exteriorized through a low midline laparotomy and the testes exposed. The specific caspase inhibitor z-DVDAD-fmk, 60 μM in DMSO, was infused via a glass micropuncture pipette (50-μM tip diameter) inserted through the tunica albugenia with the tip resting in the testicular interstitium. Approximately 5 μl of the drug were delivered. Interstitial fluid flow aided in distribution of the drug throughout the microinfused testis, and the infusion volume allowed simple replacement of the native interstitial fluid volume. Following drug delivery, the testes were returned to the scrotum, and the incision was closed. Control injections were made with vehicle, DMSO, alone. Mice were then killed at pnds 14, 15, 16, and 17 for the assessment of germ cell apoptosis.
	Other notes:	The technical data provided above is for reference only.

Product Citations

See more customer validations on www.apexbt.com.

References

1. J. D. Robertson, M. Enoksson et al. Caspase-2 Acts Upstream of Mitochondria to Promote Cytochrome c Release during Etoposide-induced Apoptosis. The Journal of Biological Chemistry. 277, :29803 – 29809, 2002.

2. Zheng S, Turner TT, Lysiak JJ. Caspase 2 activity contributes to the initial wave of germ cell apoptosis during the first round of spermatogenesis. Biol Reprod. 2006 Jun;74(6):1026-33. doi: 10.1095/biolreprod.105.044610. Epub 2006 Feb 15. PMID: 16481596.

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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