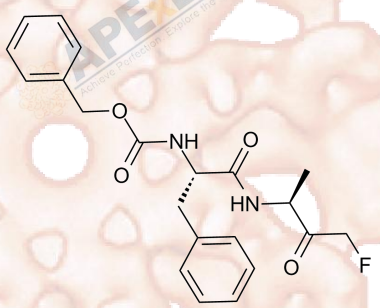
Product Data Sheet

Z-FA-FMK



Cat. No.: A8170

CAS No.: 105637-38-5;197855-65-5

Formula: C21H23N2O4F

M.Wt: 386.42

Synonyms: Z-FA-FMK, Z-Phe-Ala-fluoromethyl ketone, Z-Phe-Ala-FMK, Zfa-FMK, Z-Phe-Ala-CH2F, Cathepsin B, Caspase Inhibitor

Target: Cathepsin B/L/S, Caspase 2/3/6/7

Pathway: Apoptosis

Storage: Store at -20° C

Solvent & Solubility

insoluble in H2O; ⩾13.45 mg/mL in DMSO; ⩾3.57 mg/mL in EtOH with ultrasonic

In Vitro — Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	2.5879 mL	12.9393 mL	25.8786 mL
5 mM	0.5176 mL	2.5879 mL	5.1757 mL
10 mM	0.2588 mL	1.2939 mL	2.5879 mL

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

Biological Activity

Shortsummary	Z-FA-FMK is an irreversible inhibitor of Cathepsin B/L/S and Caspase 2/3/6/7.
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Jurkat T cells
Preparation method:	Jurkat T cells were preincubated for 1 h with increasing amounts (5, 30, or 100 μm) of Z-FA-fmk (FA) or solvent (-) and were subsequently stimulated with 2 μm MX2870-1 or 6 μm MX781 for 3 h. Cytosol extracts were prepared and

		assayed for DNA fragmentation (left panel) and DEVDase activity (right panel).
	Reacting conditions:	5, 30, or 100 μM Z-FA-FMK for 1 h preincubation
	Applications:	Increasing concentrations of Z-FA-FMK prevented retinoid-related molecule (RRM)-induced DNA fragmentation and DEVDase activity. Similarly, preincubation with a high concentration of Z-FA-FMK (100 μM) significantly inhibited the externalization of phosphatidylserine induced by RRMs. Z-FA-FMK, as an inhibitor of cathepsins B and L, has been used to explore the molecular mechanism underlying the anticancer activity of RRMs.
In Vivo	**Animal experiment**	
	Animal models:	SCID mice xenografted with Ras oncogenic HT1080 cells
	Dosage form:	0.02 mg, everyday, intratumorally, up to 7 days
	Applications:	Z-FA-FMK effectively blocked the replication activity of respiratory enteric orphan (reo)virus in both tumor and hear tissues. Therefore, Z-FA-FMK could serve as a potential viral inhibitor which prevents reovirus-mediated myocarditis and oncolysis in vivo.
	Preparation method:	0.02 mg.Administered intratumorally, everyday up to 7 days post-viral injection and every 2 days until completion of the experiment.
	Other notes:	The technical data provided above is for reference only.

Product Citations

See more customer validations on www.apexbt.com.

References

1. Lopez-Hernandez FJ, Ortiz MA, Bayon Y, et al. Z-FA-fmk inhibits effector caspases but not initiator caspases 8 and 10, and demonstrates that novel anticancer retinoid-related molecules induce apoptosis via the intrinsic pathway. Molecular Cancer Therapeutics, 2003, 2(3): 255-263.
2. Kim M, Hansen KK, Davis L, et al. Z-FA-FMK as a novel potent inhibitor of reovirus pathogenesis and oncolysis in vivo. Antiviral Therapy, 2010, 15(6): 897-905.

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.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com