Product Name: Z-FA-FMK

Revision Date: 6/30/2016

Product Data Sheet

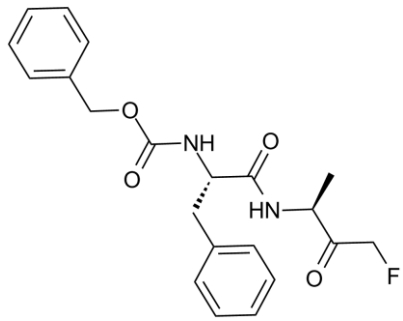
Chemical Properties

Product Name: Z-FA-FMK

Cas No.: 105637-38-5

M.Wt: 386.42

Formula: C21H23N2O4F



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

Chemical Name: benzyl N-[1-[(4-fluoro-3-oxobutan-2-yl)amino]-1-oxo-3-phenylpropan-2-yl]carbamate

Canonical SMILES: CC(C(=O)CF)NC(=O)C(CC1=CC=CC=C1)NC(=O)OCC2=CC=CC=C2

Solubility: Soluble in DMSO > 10 mM

Storage: Store at -20°C

General tips: For obtaining a higher solubility , please warm the tube at 37° C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20° C for several months.

Shopping Condition: Evaluation sample solution : ship with blue ice
All other available size: ship with RT , or blue ice upon request

Biological Activity

Targets : Caspase

Pathways: Apoptosis >> Caspase

Description:

Z-FA-FMK is a control peptidic fluoromethylketone (boc-Thr-CH2F), and inhibitor to calpain

(Ac-Leu-Leu-norleucinal), cathepsin B (Z-Phe-Ala-CH2F), and CPP32-like proteases (Z-DEVD-CH2F) [1]. A peptidyl fluoromethyl ketone (cathepsin B) was found to be an effective compound in a time dependent inactivation of cathepsin B isozymes from a number of tissues including human tumors [2]. The inhibitor of cathepsins B and L Z-FA-fmk blocks the induction of DEVDase activity, DNA fragmentation, and externalization of phosphatidylserine by selective RRMs. Z-FA-FMK can inhibit caspase activity in vitro and selectively inhibits recombinant effector caspases 2, -3, -6, and -7. In contrast, purified initiator caspases 8 and 10 are not affected, whereas the apoptosome-associated caspase 9 is only partially inhibited by Z-FA-FMK in vitro. [3]
It is an inhibitor of cysteine proteases, such as cathepsin B, which do not require a P1 Asp residue. It may be used as a negative control inhibitor for FMK P1 Asp caspase inhibitors.

***Reference**:*

1. Inhibition of the interleukin-1 beta converting enzyme family rescues neurons from apoptotic death. Lynch, T., Vasilakos, J.P., Raser, K., Keane, K.M., Shivers, B.D. Mol. Psychiatry (1997)
2. Visualization of time-dependent inactivation of human tumor cathepsin B isozymes by a peptidyl fluoromethyl ketone using a fluorescent print technique. Smith, R.E., Rasnick, D., Burdick, C.O., Cho, K.J., Rose, J.C., Vahratian, A. Anticancer Res. (1988)
3. Lopez-Hernandez, F. J., Ortiz, M. A., Bayon, Y., & Piedrafita, F. J. (2003). 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 Pathway1. Molecular cancer therapeutics, 2(3), 255-263.

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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