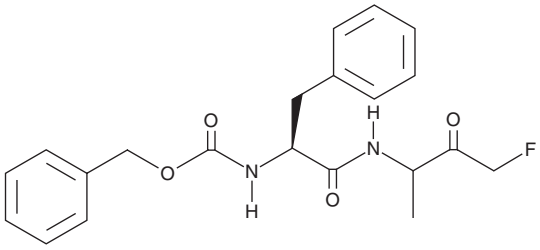
PRODUCT INFORMATION

Z-FA-FMK

Item No. 14462

CAS Registry No.: 197855-65-5
Formal Name: N-[(1S)-2-[(3-fluoro-1-methyl-2-oxopropyl)amino]-2-oxo-1-(phenylmethyl)ethyl]-carbamic acid, phenylmethyl ester
Synonym: Z-Phe-Ala-Fluoromethyl Ketone
MF: $C_{21}H_{23}FN_2O_4$
FW: 386.4
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Z-FA-FMK is supplied as a A crystalline solid. A stock solution may be made by dissolving the A crystalline solid in the solvent of choice, which should be purged with an inert gas. A crystalline solid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of Z-FA-FMK in these solvents is approximately 5 mg/ml.

Description

Z-FA-FMK is an irreversible inhibitor of cysteine proteases, including cathepsins B, L, and S, cruzain, and papain.[1] It also inhibits effector caspases-2, -3, -6, and -7 (IC_{50} = 6-32 µM) without affecting the initiator caspases-8 and -10.[2] Z-FA-FMK also modulates infection by certain bacteria, parasites, and viruses.[3-5] It can be used both in cells and *in vivo*.[4,5]

References

1. Ahmed, N.K., Martin, L.A., Watts, L.M., *et al.* Peptidyl fluoromethyl ketones as inhibitors of cathepsin B. Implication for treatment of rheumatoid arthritis. *Biochem. Pharmacol.* **44(6)**, 1201-1207 (1992).
2. Lopez-Hernandez, F.J., Ortiz, M.A., 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. *Mol. Cancer Ther.* **2(3)**, 255-263 (2003).
3. Harth, G., Andrews, N., Mills, A.A., *et al.* Peptide-fluoromethyl ketones arrest intracellular replication and intercellular transmission of Trypanosoma cruzi. *Mol. Biochem. Parasitol.* **58(1)**, 17-24 (1993).
4. Lawrence, C.P., Kadioglu, A., Yang, A.L., *et al.* The cathepsin B inhibitor, z-FA-FMK, inhibits human T cell proliferation in vitro and modulates host response to pneumococcal infection in vivo. *J. Immunol.* **177(6)**, 3827-3836 (2006).
5. Kim, M., Hansen, K.K., Davis, L., *et al.* Z-FA-FMK as a novel potent inhibitor of reovirus pathogenesis and oncolysis in vivo. *Antivir. Ther.* **15(6)**, 897-905 (2010).

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