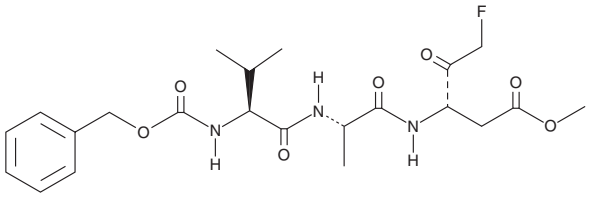
PRODUCT INFORMATION

Z-VAD(OMe)-FMK

Item No. 14463

CAS Registry No.: 187389-52-2
Formal Name: N-[(phenylmethoxy)carbonyl]-L-valyl-N-[(1S)-3-fluoro-1-(2-methoxy-2-oxoethyl)-2-oxopropyl]-L-alaninamide
Synonym: Z-Val-Ala-Asp-(OMe)-Fluoromethyl Ketone
MF: $C_{22}H_{30}FN_3O_7$
FW: 467.5
Purity: ≥95%
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-VAD(OMe)-FMK is supplied as a crystalline solid. A stock solution may be made by dissolving the Z-VAD(OMe)-FMK in the solvent of choice. Z-VAD(OMe)-FMK is soluble in DMSO at a concentration of approximately 5 mg/ml.

Z-VAD(OMe)-FMK is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Z-VAD(OMe)-FMK is a cell-permeable, competitive, and irreversible inhibitor of all caspases.[1,2] Through this action, it inhibits cleavage of poly(ADP-ribose) polymerase, preventing apoptosis when used at 10-50 µM.[1,3] It also blocks caspase-mediated apoptosis *in vivo*.[4] Z-VAD(OMe)-FMK effectively prevents caspase action in inflammasomes.[5]

References

1. Xiang, J., Chao, D.T., and Korsmeyer, S.J. BAX-induced cell death may not require interleukin 1β-converting enzyme-like proteases. *Proc. Natl. Acad. Sci. USA* **93**, 14559-14563 (1996).
2. Garcia-Calvo, M., Peterson, E.P., Leiting, B., *et al.* Inhibition of human caspases by peptide-based and macromolecular inhibitors. *J. Biol. Chem.* **273**, 32608-32613 (1998).
3. Slee, E.A., Zhu, H., Chow, S.C., *et al.* Benzyloxycarbonyl-Val-Ala-Asp (OMe) fluoromethylketone (Z-VAD.FMK) inhibits apoptosis by blocking the processing of CPP32. *Biochem. J.* **315**, 21-24 (1996).
4. Künstle, G., Leist, M., Uhlig, S., *et al.* ICE-protease inhibitors block murine liver injury and apoptosis caused by CD95 or by TNF-α. *Immunol. Lett.* **55(1)**, 5-10 (1997).
5. Meraz, I.M., Melendez, B., Gu, J., *et al.* Activation of the inflammasome and enhanced migration of microparticle-stimulated dendritic cells to the draining lymph node. *Mol. Pharm.* **9**, 2049-2062 (2012).

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