

Product Information

Z-Ala-Ser-Thr-Asp(OMe) Fluoromethyl Ketone

Product Number **C 9359**

Storage Temperature $-20\text{ }^{\circ}\text{C}$

Product Description

Molecular Formula: $\text{C}_{24}\text{H}_{32}\text{FN}_4\text{O}_{10}$

Molecular Weight: 555.5

Z-Ala-Ser-Thr-Asp(OMe)-Fluoromethyl Ketone is the methylated, cell-permeable derivative of caspase-7 inhibitor Z-Ala-Ser-Thr-Asp-FMK (Z-ASTD-FMK, Z = benzyloxycarbonyl).

Caspase-7 has been implicated in the cleavage of proendothelial monocyte-activating polypeptide II (proEMAP II) to EMAP II in apoptotic cells.^{1,2} EMAP II is a proinflammatory cytokine capable of stimulating the chemotactic migration of monocytes and neutrophils as well as activating endothelial cells and monocytes to become macrophages.

Methylation of the acidic amino acid Asp enhances the cell membrane permeability of Z-ASTD-FMK. Once in the cell endogenous esterase activity hydrolyzes the methyl groups to form the biological active form. For *in vitro* studies an esterase needs to be included in the reaction mix to generate the active form of the molecule.

FMK is a trapping group responsible for irreversible inhibition, but is non-cytotoxic. Inhibition occurs when the the FMK group covalently bonds to the $-\text{SH}$ of an adjacent cysteine residue on the target protein.

Preparation Instructions

Prepare stock 20 mM solutions in dry ($\geq 99.9\%$) DMSO to maintain product stability. Also soluble in DMF.

Storage/Stability

Store at $-20\text{ }^{\circ}\text{C}$. The product is stable at room temperature for one year in a desiccator. Allow container to warm to room temperature before opening to ensure stability.

Stock solutions can be stored at $-20\text{ }^{\circ}\text{C}$ for 6-8 months.

References

1. Knies, U.E., et al., Regulation of endothelial monocyte-activating polypeptide II released by apoptosis. *Proc. Natl. Acad. Sci. USA*, **95**, 12322-12327 (1998).
2. Behrendorf, H. A., et al. The endothelial monocyte-activating polypeptide II (EMAP II) is a substrate for caspase-7. *FEBS Lett.*, **466**, 143-147 (2000).

ZWD 11/01

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.