MeOSuc-Ala-Ala-Pro-Val Chloromethyl Ketone

ProductInformation

Product Number **M 0398**
Storage Temperature –20 °C

Product Description
Molecular formula: $C_{22}H_{35}ClN_4O_7$.
Molecular weight: 503.0

MeOSuc-Ala-Ala-Pro-Val chloromethyl ketone (MeOSu-AAPV-CMK) is a cell permeable inhibitor of human leukocyte elastase (HLE).

HLE is a serine protease found in the azurophilic granules of polymorphononuclear leukocytes. When released from the cell it can hydrolyze elastin and collagen. Naturally occuring inhibitors such as R1-protease inhibitor will normally control the activity of HLE. Excessive amounts of HLE activity have been implicated in diseases such as rheumatoid arthritis, emphasema, and cystic fibrosis.

CMK is a trapping group responsible for irreversible inhibition and is also non-cytotoxic. Inhibition occurs when the CMK group covalently bonds to the –OH of an serine adjacent residue, or the –SH of an adjacent cysteine residue, on the target protein.

Preparation Instructions
Prepare stock 100 mM solutions in DMSO or DMF. Dilute in buffer as needed. A twenty minute incubation is suggested for optimum inhibition.

Storage/Stability
Store product at –20 °C. Stable for one year when stored as recommended.

Store stock solutions in frozen aliquots at –20 °C. Stable for up to one year.

Allow the material to warm to room temperature before use to ensure stability.

References

1. Fletcher D.S. et al., An inhibitor of leukocyte elastase prevents immune complex-mediated hemorrhage in the rat lung. J. Pharmacol. Exp. Ther., **274,** 548-554 (1995).
2. Fletcher D.S. et al., A comparison of alpha 1-proteinase inhibitor methoxysuccinyl-Ala-Ala-Pro-Val-chloromethylketone and specific beta-lactam inhibitors in an acute model of human polymorphonuclear leukocyte elastase-induced lung hemorrhage in the hamster. Am. Rev. Respir. Dis., **141,** 672-677 (1990).
3. Segal, D. M. et al., Substrate binding site in bovine chymotrypsin A-gamma. A crystallographic study using peptide chloromethyl ketones as site-specific inhibitors. Biochemistry, **10,** 3728-3738 (1971).
4. Veale, C. A., et al., Orally active trifluoromethyl ketone inhibitors of human leukocyte elastase. J. Med. Chem., **40,** 3173-3181(1997).

KS/JWM 12/01