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ProductInformation

4-Amidinophenylmethanesulfonyl fluoride hydrochloride

Product Number **A 6664**
Storage Temperature -20 °C

Product Description

Molecular Formula: $C_8H_9FN_2O_2S \bullet HCl$
Molecular Weight: 252.7
CAS Number: 74938-88-8
Melting Point: 190-191 ºC[1]
Synonym: (*p*-Amidinophenyl)methanesulfonyl fluoride, p-APMSF

4-Amidinophenylmethanesulfonyl fluoride hydrochloride (p-APMSF) is a specific, irreversible inhibitor of the class of serine proteases with a substrate specificity for the positively charged side chains of lysine or arginine residues. p-APMSF specifically inhibits bovine Factor X_a, human plasmin, and the human complement proteases C1r and C1s. By contrast, it is much less inhibitory towards acetylcholinesterase and chymotrypsin.[1]

p-APMSF has been shown to inhibit other enzymes, including a trypsin-like proteinase produced by *Fusarium culmorum*, the clotting enzyme flavoviridiobin from *Trimeresurus flavoviridis*, and an N(α)-acetylalanine aminopeptidase from *Allomyces arbuscula*.[2,3,4] p-APMSF has been used in studies on nonproteasomal apoB100 degradative pathway in rat hepatoma cells.[5] The use of p-APMSF in the inhibition of the proteolytic cleavage of apolipoprotein A-I by plasma phospholipid transfer protein has been studied.[6]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in DMSO (50 mg/ml), yielding a clear, colorless solution.

Storage/Stability

A stock solution of 50 mM p-APMSF in water can be prepared and is stable when aliquoted at -20 °C. Effective working concentrations are from 10-100 µM. The half-life of p-APMSF in aqueous buffer solutions at pH 7.0 is 6 minutes.[7]

References

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6. Jauhiainen, M., et al., Phospholipid transfer protein (PLTP) causes proteolytic cleavage of apolipoprotein A-I. J. Lipid Res., **40(4)**, 654-664 (1999).
7. Proteolytic Enzymes, A Practical Approach, 2nd ed., Beynon, R. J., and Bond, J. S., eds., IRL Press (Oxford, UK: 1989), p. 242.

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