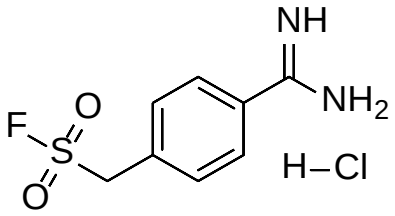
Product data sheet

MedKoo Cat#: 574257 Name: p-APMSF CAS: 74938-88-8 Chemical Formula: $C_8H_{10}ClFN_2O_2S$ Exact Mass: 252.0136 Molecular Weight: 252.6884	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.



1. Product description:
p-APMSF is an irreversible inhibitor of serine proteases.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	50.0	197.87
Water	25.0	98.94

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	3.96 mL	19.79 mL	39.57 mL
5 mM	0.79 mL	3.96 mL	7.91 mL
10 mM	0.40 mL	1.98 mL	3.96 mL
50 mM	0.08 mL	0.40 mL	0.79 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

Laura R, Robison DJ, Bing DH. (p-Amidinophenyl)methanesulfonyl fluoride, an irreversible inhibitor of serine proteases. Biochemistry. 1980 Oct 14;19(21):4859-64. doi: 10.1021/bi00562a024. PMID: 6775696.

In vivo study

TBD

7. Bioactivity
Biological target:

p-APMSF is an irreversible inhibitor of serine proteases.

In vitro activity

the Ki of p-APMSF for all of the above-mentioned proteases is between 1 and 2 microM. In contrast, p-APMSF in large molar excess does not inactivate chymotrypsin or acetylcholinesterase. The unique reactivity of p-APMSF has been further shown in comparison with the related compound p-nitrophenyl (p-amidinophenyl)methanesulfonate which is an active-site titrant for thrombin but reacts poorly with Factor Xa, C1-r, and C1-s and is not hydrolyzed by bovine trypsin or human plasmin. Studies with bovine trypsin have demonstrated that the inhibitory activity of p-APMSF is the result of its interaction with the diisopropyl fluorophosphate reactive site.

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Reference: Biochemistry. 1980 Oct 14;19(21):4859-64. https://pubmed.ncbi.nlm.nih.gov/6775696/

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.