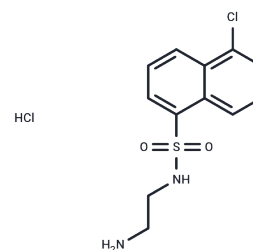


## A-3 hydrochloride

## Chemical Properties

CAS No. :	78957-85-4
Formula:	C <sub>12</sub> H <sub>14</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>2</sub> S
Molecular Weight:	321.22
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	A-3 hydrochloride is a potent, cell-permeable, reversible, ATP-competitive non-selective antagonist of various kinases. It inhibits PKC and casein kinase I with $K_i$ values of 47 $\mu$ M and 80 $\mu$ M, respectively[1], and also inhibits PKA ( $K_i=4.3 \mu$ M), casein kinase II ( $K_i=5.1 \mu$ M), and myosin light chain kinase (MLCK) ( $K_i=7.4 \mu$ M).
Targets(IC50)	CaMK,Casein Kinase,PKA,PKC
In vitro	A-3 hydrochloride competitively inhibits MLC-kinase with respect to ATP, with a $K_i$ value of 7.4 $\mu$ M. It also competitively inhibits cAMP-dependent protein kinase, cGMP-dependent protein kinase, protein kinase C, casein kinase I, and casein kinase II with ATP, exhibiting $K_i$ values of 4.3 $\mu$ M, 3.8 $\mu$ M, 47 $\mu$ M, 80 $\mu$ M, and 5.1 $\mu$ M, respectively[1].

## Solubility Information

Solubility	DMSO: 125 mg/mL (389.14 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (12.45 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.1131 mL	15.5657 mL	31.1313 mL
5 mM	0.6226 mL	3.1131 mL	6.2263 mL
10 mM	0.3113 mL	1.5566 mL	3.1131 mL
50 mM	0.0623 mL	0.3113 mL	0.6226 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Inagaki M, et al. Naphthalenesulfonamides as calmodulin antagonists and protein kinase inhibitors. Mol Pharmacol. 1986 Jun;29(6):577-81.

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