

Philanthotoxin 74 dihydrochloride

Chemical Properties

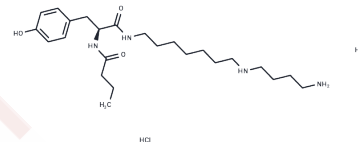
CAS No. : 1227301-51-0

Formula: C₂₄H₄₄Cl₂N₄O₃

Molecular Weight: 507.54

Storage: Store at low temperature, Keep away from moisture
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	Philanthotoxin 74 dihydrochloride is an antagonist of AMPAR with IC ₅₀ s of 263 and 296 nM for GluR3 and GluR1.
Targets(IC ₅₀)	GluR, iGluR
In vitro	Philanthotoxin 74 dihydrochloride inhibits the two major subtypes of GluA2R-containing AMPARs, GluA1/A2R and GluA2R/A3 in the micromolar concentration range, when these are coexpressed with γ -2 in oocytes. Philanthotoxin 74 dihydrochloride (500 μ M) fully inhibits GluA1/A2R receptors and produces 10% inhibition at GluA2R/A3 receptors. Philanthotoxin 74 dihydrochloride (100 and 500 μ M) displays a pronounced channel block (> 80%) of GluA1/A2R but minimal block (less than 10%) of GluA2R/A3. Philanthotoxin 74 dihydrochloride inhibits these receptors nonselectively, with IC ₅₀ values of about 30 μ M, in both the presence and absence of γ -2[1].

Solubility Information

Solubility	DMSO: 90 mg/mL (177.33 mM), Sonication is recommended. H ₂ O: 40 mg/mL (78.81 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: 3.3 mg/mL (6.5 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

	1mg	5mg	10mg
1 mM	1.9703 mL	9.8514 mL	19.7029 mL
5 mM	0.3941 mL	1.9703 mL	3.9406 mL
10 mM	0.197 mL	0.9851 mL	1.9703 mL
50 mM	0.0394 mL	0.197 mL	0.3941 mL

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

Poulsen MH, et al. Evaluation of PhTX-74 as subtype-selective inhibitor of GluA2-containing AMPA receptors. *Mol Pharmacol.* 2014 Feb;85(2):261-8.

Kromann H, et al. Solid-phase synthesis of polyamine toxin analogues: potent and selective antagonists of Ca²⁺-permeable AMPA receptors. *J Med Chem.* 2002 Dec 19;45(26):5745-54.

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