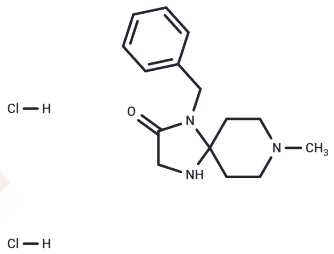
Data Sheet (Cat.No.T9172)

TargetMol

Simufilam dihydrochloride

Chemical Properties



CAS No. :	2480226-06-8
Formula:	C15H23Cl2N3O
Molecular Weight:	332.3
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	Simufilam dihydrochloride (PTI-125 dihydrochloride) is a low toxicity, orally active filamin A (FLNA) activator, which can be used for the research of Alzheimer's disease. Simufilam dihydrochloride preferentially binds altered FLNA and restores its native conformation, restoring receptor and synaptic activities and reducing its α7nAChR/TLR4 associations and downstream pathologies.
Targets(IC50)	Beta Amyloid,Others,Microtubule Associated,AChR,iGluR,mTOR
In vitro	Simufilam dihydrochloride (1 pM~1 nM) increases NMDA/glycine-induced Arc expression in a dose-dependent manner. Simufilam dihydrochloride (1 nM, 1 hour) largely restores filamin A to its native conformation and effectively normalizes receptor activities in AD frontal cortices. Simufilam dihydrochloride dose-dependently reduces Ab42-induced FLNA coupling to a7nAChR and TLR4 in both Ab42-treated control and AD hippocampus. Simufilam dihydrochloride reduces Ab42's binding affinity for a7nAChR, thereby prevents Ab42's signaling and further accumulation on a7nAChRs.
In vivo	Simufilam dihydrochloride (22 mg/kg; p.o.) robustly reduces FLNAea7nAChR/TLR4 associations. Simufilam dihydrochloride significantly improves spatial memory.

Solubility Information

Solubility	DMSO: 65 mg/mL (195.61 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0093 mL	15.0466 mL	30.0933 mL
5 mM	0.6019 mL	3.0093 mL	6.0187 mL
10 mM	0.3009 mL	1.5047 mL	3.0093 mL
50 mM	0.0602 mL	0.3009 mL	0.6019 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

Wang HY, et al. PTI-125 binds and reverses an altered conformation of filamin A to reduce Alzheimer's disease pathogenesis. Neurobiol Aging. 2017;55:99-114.