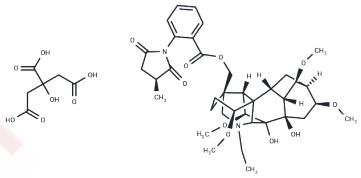
Data Sheet (Cat.No.T12017)

TargetMol

Methyllycaconitine citrate

Chemical Properties



CAS No. : 351344-10-0

Formula: C43H58N2O17

Molecular Weight: 874.92

Storage: Keep away from moisture,Store at low temperature
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	Methyllycaconitine citrate (MLA) is an α7 neuronal nicotinic acetylcholine receptor (α7nAChR) antagonist that crosses the blood-brain barrier.
Targets(IC50)	AChR
In vitro	Pretreatment with 5 and 10 μM Methyllycaconitine citrate inhibited the decreased cell viability induced by Aβ25-35, which suggested that Methyllycaconitine citrate had a protective effect against Aβ-induced cytotoxicity. Furthermore, cell viability did not decrease after exposure to Methyllycaconitine citrate (2.5, 5, 10, 20 uM), which suggests a good safety profile[1].
In vivo	The effect of MLA on acute METH-induced effects and neurotoxicity in mice was tested using an in vivo model. The results indicate that MLA (6 mg/kg) inhibited 50% of the METH-induced climbing behavior[2].

Solubility Information

Solubility	DMSO: 100 mg/mL (114.3 mM),Sonication is recommended. H2O: 1 mg/mL (1.14 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 (4.57 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.143 mL	5.7148 mL	11.4296 mL
5 mM	0.2286 mL	1.143 mL	2.2859 mL
10 mM	0.1143 mL	0.5715 mL	1.143 mL
50 mM	0.0229 mL	0.1143 mL	0.2286 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

Zheng X, et al. Methyllycaconitine alleviates amyloid-β peptides-induced cytotoxicity in SH-SY5Y cells. PLoS One. 2014 Oct 31;9(10):e111536.

Su J C, Pan Q, Xu X, et al. Structurally diverse steroids from an endophyte of Aspergillus tennesseensis 1022LEF attenuates LPS-induced inflammatory response through the cholinergic anti-inflammatory pathway. Chemico-Biological Interactions. 2022: 109998

Escubedo E, et al. Methyllycaconitine prevents methamphetamine-induced effects in mouse striatum: involvement of alpha7 nicotinic receptors. J Pharmacol Exp Ther. 2005 Nov;315(2):658-67.

Lockman PR, et al. Chronic nicotine exposure alters blood-brain barrier permeability and diminishes brain uptake of methyllycaconitine. J Neurochem. 2005 Jul;94(1):37-44.