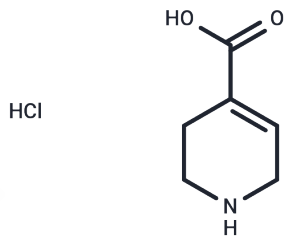
Data Sheet (Cat.No.T11684)

TargetMol

Isoguvacine hydrochloride

Chemical Properties



CAS No. : 68547-97-7

Formula: C6H10ClNO2

Molecular Weight: 163.6

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	Isoguvacine hydrochloride (1,2,3,6-tetrahydro-4-pyridinecarboxylic acid hydrochloride) is a GABA receptor agonist. Isoguvacine hydrochloride binds to rat synaptic cortical membranes and activates α1β2γ2S, α2β2γ2S, α3β2γ2S, α5β2γ2S, and ρ1 subunit GABAA receptors.
Targets(IC50)	GABA Receptor
In vitro	Treatment of 50 μM Isoguvacine to block epileptiform events in 2 of 6 organotypic hippocampal slice cultures, Isoguvacine dose-dependently inhibits hypomagnesium-induced epileptiform events[2]. Isoguvacine binds to mouse forebrain synaptic membrane preparations and can specifically bind to GABA, muscimol and bicuculline, but not picrotoxin or diaminobutyric acid. The highest levels of binding are observed in the cerebellum, cortex and hippocampus[3].

Solubility Information

Solubility	H2O: 90 mg/mL (550.12 mM),Sonication is recommended. DMSO: 20 mg/mL (122.25 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: 2 mg/mL (12.22 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	6.1125 mL	30.5623 mL	61.1247 mL
5 mM	1.2225 mL	6.1125 mL	12.2249 mL
10 mM	0.6112 mL	3.0562 mL	6.1125 mL
50 mM	0.1222 mL	0.6112 mL	1.2225 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

White WF, et al. Isoguvacine binding, uptake, and release: relation to the GABA system. J Neurochem. 1983 Jun;40 (6):1701-8.
Wahab A, et al. Effects of gamma-aminobutyric acid (GABA) agonists and a GABA uptake inhibitor on pharmacoresistant seizure like events in organotypic hippocampal slice cultures. Epilepsy Res. 2009 Oct;86(2-3): 113-23.
Morin AM, et al. The binding of 3H-isoguvacine to mouse brain synapticmembranes. Life Sci. 1980 Apr 14;26(15): 1239-45.