

A 582941 HCl (848591-90-2(free base))

Chemical Properties

CAS No. :

Formula: C₁₇H₂₁ClN₄

Molecular Weight: 316.83

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-582941 is a alpha7 neuronal nicotinic receptor agonist with broad spectrum cognition-enhancing properties
Targets(IC50)	AChR
In vitro	A-582941 was found to exhibit high-affinity binding and partial agonism at alpha7 nAChRs, with acceptable pharmacokinetic properties and excellent distribution to the central nervous system (CNS).?In vitro and in vivo studies indicated that A-582941 activates signaling pathways known to be involved in cognitive function such as ERK1/2 and CREB phosphorylation.?A-582941 enhanced cognitive performance in behavioral models that capture domains of working memory, short-term recognition memory, memory consolidation, and sensory gating deficit.?A-582941 exhibited a benign secondary pharmacodynamic and tolerability profile as assessed in a battery of assays of cardiovascular, gastrointestinal, and CNS function[1].

Solubility Information

Solubility	DMSO: 12 mg/mL (37.88 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1563 mL	15.7813 mL	31.5627 mL
5 mM	0.6313 mL	3.1563 mL	6.3125 mL
10 mM	0.3156 mL	1.5781 mL	3.1563 mL
50 mM	0.0631 mL	0.3156 mL	0.6313 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

Tietje K R , Anderson D J , Bitner R S , et al. Preclinical Characterization of A-582941: A Novel $\alpha 7$ Neuronal Nicotinic Receptor Agonist with Broad Spectrum Cognition-Enhancing Properties[J]. Cns Neuroence & Therapeutics, 2010, 14 (1):65-82.

Jun, Toyohara, Kiichi, et al. In Vivo Evaluation of $\alpha 7$ Nicotinic Acetylcholine Receptor Agonists [^{11}C]A-582941 and [^{11}C]A-844606 in Mice and Conscious Monkeys[J]. Plos One, 2010.

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