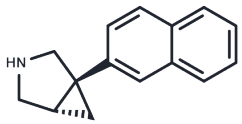
Data Sheet (Cat.No.T10758L)

TargetMol

Centanafadine hydrochloride

Chemical Properties



CAS No. : 923981-14-0

Formula: C15H16ClN

Molecular Weight: 245.75

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	Centanafadine hydrochloride (EB-1020 hydrochloride) is a dual inhibitor of norepinephrine (NE)/dopamine (DA) transporter, also inhibits serotonin transporter (IC50s: 6 nM, 38 nM, and 83 nM for human NE, DA, and serotonin transporter).
Targets(IC50)	Adrenergic Receptor,Norepinephrine,Dopamine Receptor,Serotonin Transporter
In vitro	Centanafadine (EB-1020) preferentially inhibits monoamine reuptake in cloned cell lines transfected with human transporters, with IC50 values of 6 nM for NE and 38 nM for DA transporters. It has a lesser effect on the 5-HT transporter, inhibiting 5-HT reuptake with an IC50 of 83 nM.
In vivo	In microdialysis studies, Centanafadine significantly increases NE and DA concentrations in the rat prefrontal cortex in vivo, with peak increases of 375% and 300%, respectively, showing the greatest effects on NE. It also raises DA extracellular concentrations in the striatum to 400% of baseline levels. Centanafadine dose-dependently reduces immobility in the mouse tail suspension test of depression to 13% of control levels without stimulating locomotor activity in adult rats at the optimal dose range. Additionally, it dose-dependently inhibits locomotor hyperactivity in juvenile rats lesioned with the neurotoxin 6-hydroxydopamine (100 µg intracisternal) as neonates.

Solubility Information

Solubility	DMSO: 125 mg/mL (508.65 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 (16.28 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	4.0692 mL	20.3459 mL	40.6918 mL
5 mM	0.8138 mL	4.0692 mL	8.1384 mL
10 mM	0.4069 mL	2.0346 mL	4.0692 mL
50 mM	0.0814 mL	0.4069 mL	0.8138 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

Bymaster FP, et al. Pharmacological characterization of the norepinephrine and dopamine reuptake inhibitor EB-1020: implications for treatment of attention-deficit hyperactivity disorder. Synapse. 2012 Jun;66(6):522-32.