Data Sheet (Cat.No.T61617)

TargetMol

Hcyb1

Chemical Properties

CAS No. :

Formula: C24H20N4O

Molecular Weight: 380.44

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	Hcyb1 is a potent and specific inhibitor of phosphodiesterase 2 (PDE2). It exhibits a high degree of selectivity for inhibiting PDE2A with an IC50 value of 0.57 μM. In addition, Hcyb1 displays over 250-fold selectivity against other recombinant members of the PDE family. Moreover, its pharmacological actions include neuroprotective and antidepressant-like effects, which are believed to be mediated through the cAMP/cGMP-CREB-BDNF signaling pathway [1].
Targets(IC50)	Others,PDE
In vitro	Hcyb1 significantly enhances cGMP levels by 1.7 to 2.3 folds within 10 minutes of exposure at concentrations ranging from 1 to 100 nM, as well as increases both cGMP and cAMP levels after 24 hours at a concentration of 1 nM. Furthermore, Hcyb1 treatment elevates the phosphorylation levels of CREB and BDNF in HT-22 cells over a 24-hour period and promotes HT-22 cell viability along with cGMP and cAMP accumulation. Its effects on cell viability are concentration- and time-dependent, as shown by increased cell viability at 0.1 and 1 nM concentrations after 24 hours, particularly noticeable from 12 to 24 hours at 1 nM, reaching maximal effects at 24 hours. Western blot analysis reveals that at a concentration of 1 nM, Hcyb1 significantly augments the phosphorylation of CREB and upregulates BDNF expression in HT-22 cells after 24 hours.
In vivo	Hcyb1, at doses of 0.5, 1, and 2 mg/kg administered through gavage (i.g.), was found to significantly reduce immobility time in the forced swimming and tail suspension tests, indicating an antidepressant-like activity. This effect was observed without any changes to locomotor function. The study utilized male imprinting control region (ICR) mice weighing between 20 and 25 g as the animal model. The results demonstrate a dose-dependent decrease in immobility time at the administered doses, highlighting Hcyb1's potential therapeutic effect [3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6285 mL	13.1427 mL	26.2854 mL
5 mM	0.5257 mL	2.6285 mL	5.2571 mL
10 mM	0.2629 mL	1.3143 mL	2.6285 mL
50 mM	0.0526 mL	0.2629 mL	0.5257 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.