Product Data Sheet

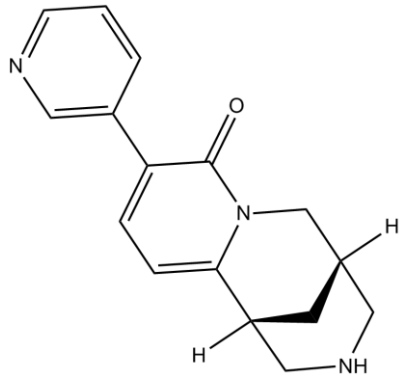
Chemical Properties

Product Name: 3-pyr-Cytisine

Cas No.: 948027-43-8

M.Wt: 267.33

Formula: C16H17N3O



Chemical Name: (1R,5S)-9-(pyridin-3-yl)-3,4,5,6-tetrahydro-1H-1,5-methanopyrido[1,2-a][1,5]diazocin-8(2H)-one

Canonical SMILES: O=C1C(C2=CN=CC=C2)=CC=C3[C@]4([H])C[C@@](CN31)([H])CNC4

Solubility: Soluble in DMSO

Storage: Store at -20°C

General tips: For obtaining a higher solubility , please warm the tube at 37° C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20° C for several months.

Shopping Condition: Evaluation sample solution : ship with blue ice
All other available size: ship with RT , or blue ice upon request

Biological Activity

Targets : Neuroscience

Pathways: Nicotinic Receptor

Description:

3-pyr-Cytisine is a partial agonist of α4β2 receptor with Ki values of 0.91, 119 and 1100 nM for α4β2, α3β4 and α7 receptors, respectively [1].
The alpha-4 beta-2 nicotinic receptor (α4β2 receptor) is a nicotinic acetylcholine receptor participated in learning and is widely expressed in the central nervous system. Also, α4β2 receptor has the highest affinity for nicotine.
3-pyr-Cytisine is an α4β2 receptor partial agonist. In cells expressed α4β2 receptor, 3-pyr-Cyt

reduced the agonist response by ACh, which relayed on the intrinsic activity of 3-pyr-Cyt and 3-pyr-Cyt concentration [1]. In PC12 cells, 3-pyr-Cyt significantly induced release of norepinephrine (NE) in a time-, dose- and Ca2+-dependent way. Also, 3-pyr-Cyt inhibited nicotine-induced NE release and increased the mRNA levels of tyrosine hydroxylase (TH), which is necessary for catecholamine biosynthetic [2].
In the tail suspension test, mice treated with 3-pyr-Cyt (0.6 mg/kg) spent significantly less time immobile in a dose-dependent way. In the forced swim test, mice treated with 3-pyr-Cyt (0.3, 0.6 or 0.9 mg/kg) were significantly less immobile in a dose-dependent way, which suggested that 3-pyr-Cyt exhibited antidepressant-like effects in a dose-dependent way [1].

***Reference**:*

[1]. Mineur YS, Eibl C, Young G, et al. Cytisine-based nicotinic partial agonists as novel antidepressant compounds. J Pharmacol Exp Ther, 2009, 329(1): 377-386.
[2]. Turcanu DS, Kirtok N, Eibl C, et al. Nicotinic receptor partial agonists alter catecholamine homeostasis and response to nicotine in PC12 cells. Neurosci Lett, 2012, 516(2): 212-216.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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