Data Sheet (Cat.No.T4429)

TargetMol

Rauwolscine hydrochloride

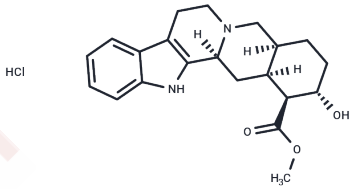
Chemical Properties

CAS No. : 6211-32-1

Formula: C21H27ClN2O3

Molecular Weight: 390.9

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	Rauwolscine hydrochloride (Isoyohimbine hydrochloride) , a natural alkaloid, is a specific and reversible α2-adrenergic receptor antagonist (Ki: 12 nM) [1]. It is a stereoisomer of yohimbine, which potently antagonizes both α1- and α2-adrenergic receptors [1]. Rauwolscine hydrochloride also acts as a receptor antagonist at the serotonin 5-HT2B receptor (Ki: 14.3 nM) and as a weak partial agonist at 5-HT1A (IC50: 1.3 μM) [3]. The α2-adrenergic receptor has diverse physiological functions and antagonists like rauwolscine have numerous applications, including the modulation of mood and behavior [5].
Targets(IC50)	Adrenergic Receptor
In vitro	[3H]Rauwolscine binding to the α2 adrenergic receptor is reversible, stcreospccific, and saturable. [3H]Rauwolscine specifically labels both the high and low-affinity states of the α2 adrenergic receptor in brain membranes[1]. [3H]Rauwolscine also behaves as a 5-HT1A receptor agonist, indicating that rauwolscine (as well as yohimbine) has agonistic properties at the level of 5-HT autoreceptors[2]. When using [3H]5-HT as a radioligand, rauwolscine is determined to have a relatively high affinity for the human receptor (Ki: 14.3/35.8 nM, for human and rat)[3]. Saturation studies show that the affinity of [3H]Rauwolscine is similar in mouse, rabbit, rat, dog (2.33-3.03 nM) except man where it is significantly higher (0.98 nM) [4].
Kinase Assay	Fresh bovine frontal cortex is incubated in triplicate with [3H]Rauwolscine (82 Ci/mM, diluted). Incubation is terminated by filtration under reduced pressure over filters, which are then rinsed with ice-cold Tris-HCl buffer, dried overnight and added to disposable glass mini vials containing 3.0 mL of a 95% Econofluor/5% Protocol solution. Samples are counted by liquid scintillation spectrometry with an efficiency of 32%. (-)- [3H] Epinephrine binding to bovine cortex membranes is conducted at 25°C[1].

Solubility Information

Solubility	DMSO: 13.51 mg/mL (34.56 mM),Sonication is recommended. H2O: 5 mM,Heating is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5582 mL	12.791 mL	25.582 mL
5 mM	0.5116 mL	2.5582 mL	5.1164 mL
10 mM	0.2558 mL	1.2791 mL	2.5582 mL
50 mM	0.0512 mL	0.2558 mL	0.5116 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

Perry B D, U'Prichard D C. [3H] Rauwolscine (α-yohimbine): a specific antagonist radioligand for brain α2-adrenergic receptors[J]. European journal of pharmacology, 1981, 76(4): 461-464.
De Vos H, Czerwiec E, De Backer J P, et al. [3H] Rauwolscine behaves as an agonist for the 5-HTa receptors in human frontal cortex membranes[J]. European Journal of Pharmacology: Molecular Pharmacology, 1991, 207(1): 1-8.
Wainscott D B, Sasso D A, Kursar J D, et al. [3H] Rauwolscine: an antagonist radioligand for the cloned human 5-hydroxytryptamine2B (5-HT2B) receptor[J]. Naunyn-Schmiedeberg's archives of pharmacology, 1997, 357(1): 17-24.
Neylon C B, Summers R J. [3H]-rauwolscine binding to α2-adrenoceptors in the mammalian kidney: apparent receptor heterogeneity between species[J]. British journal of pharmacology, 1985, 85(2): 349-359.
Cottingham C, Wang Q. α2 adrenergic receptor dysregulation in depressive disorders: Implications for the neurobiology of depression and antidepressant therapy[J]. Neuroscience & Biobehavioral Reviews, 2012, 36(10): 2214-2225.