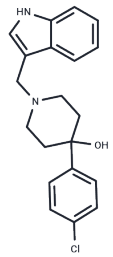
Data Sheet (Cat.No.T15686)

TargetMol

L-741626

Chemical Properties



CAS No. : 81226-60-0

Formula: C20H21ClN2O

Molecular Weight: 340.85

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	L-741626 (3-(4-(4-Chlorophenyl-4-hydroxypiperidino)methyl)indole) is a selective antagonist of D2 dopamine receptor (Ki: 2.4, 100, and 220 nM for human D2, D3 and D4 receptors respectively).
Targets(IC50)	Dopamine Receptor
In vitro	L-741626 is an effective antagonist (EC50 (D2)=4.46 nM) with some D2 selectivity (EC50 (D3)=90.4 nM), in the functional assay. L-741626 is prepared by literature methods (Ki (D2)=11.2 nM). L-741626 also shows a D3/D2 and D4/D2 selectivity ratio of 15-fold and 136-fold, respectively. Intrinsic activities using inhibition of quinpirole stimulation of mitogenesis in human dopamine D2 or D3 receptors transfected into Chinese hamster ovary (CHO) cells, in a functional assay [2].
In vivo	In pramipexole-trained male Sprague Dawley rats, L-741626 (1.0 mg/kg; i.h.) is effective at shifting to the right the pramipexole dose-response curve [3]. Coadministration Cocaine with the D2 antagonist L-741626 (3 mg/kg; i.p.; 15 min before Cocaine) for 5 days decreases the Cocaine-induced enhance in microglial TNF-α production in adult mice [4].

Solubility Information

Solubility	DMSO: 250 mg/mL (733.46 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: 2 mg/mL (5.87 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	2.9338 mL	14.6692 mL	29.3384 mL
5 mM	0.5868 mL	2.9338 mL	5.8677 mL
10 mM	0.2934 mL	1.4669 mL	2.9338 mL
50 mM	0.0587 mL	0.2934 mL	0.5868 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

Lewitus GM, et al. Microglial TNF-α Suppresses Cocaine-Induced Plasticity and Behavioral Sensitization. Neuron. 2016 May 4;90(3):483-91.
Grundt P, et al. Analogues of the dopamine D2 receptor antagonist L741,626: Binding, function, and SAR. Bioorg Med Chem Lett. 2007 Feb 1;17(3):745-9.
Koffarnus MN, et al. The discriminative stimulus effects of dopamine D2- and D3-preferring agonists in rats. Psychopharmacology (Berl). 2009 Apr;203(2):317-27.
Kulagowski JJ, et al. 3-((4-(4-Chlorophenyl)piperazin-1-yl)-methyl)-1H-pyrrolo-2,3-b-pyridine: an antagonist with high affinity and selectivity for the human dopamine D4 receptor. J Med Chem. 1996 May 10;39(10):1941-2.

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