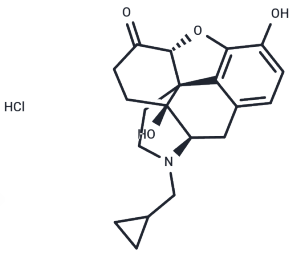
Data Sheet (Cat.No.T0963)

TargetMol

Naltrexone hydrochloride

Chemical Properties



CAS No. : 16676-29-2

Formula: C20H24ClNO4

Molecular Weight: 377.862

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	Naltrexone hydrochloride (Naltrexone HCl) is a synthetic opioid antagonist used in the prevention of relapse of opiate addiction and alcoholism.
Targets(IC50)	Opioid Receptor
In vivo	Naltrexone (0.32 mg/kg) reduces ethanol-reinforced responding at the concentration that maintained the most responding (1% or 2%) in rhesus monkeys. Naltrexone (0.1 mg/kg) reduces ethanol-reinforced responding, both at a low ethanol concentration (0.25%) that produced little ethanol intake (g/kg), and at a higher concentration (4%) with an appreciable intake. [1] Naltrexone (1-3 mg/kg) potently and dose-dependently inhibits reinstatement of ethanol-seeking produced by non-contingent deliveries of the liquid dipper filled with 8% ethanol. [2] Naltrexone elicits optimal enhancement of morphine's antinociceptive potency in mice when co-administered (i.p.) at about 100 ng/kg together with morphine (3 mg/kg). [3] Naltrexone (10 ng/kg i.p.) augments the antinociception produced by an acute submaximal dose of intrathecal (5 mg) or systemic (7.5 mg/kg i.p.) morphine in the tail-flick test in rats. Naltrexone combined with Morphine inhibits the decline in morphine antinociception and prevented the loss of morphine potency in rats. [4] Naltrexone significantly suppresses ethanol self-administration and prevents ethanol-induced increases in dialysate dopamine levels. [5] Naltrexone completely prevents the reduction in anogenital distance in prenatally stressed (PS) males and restores the growth rate of both sexes. Naltrexone also decreases the anxiety of PS rats in the plus-maze, increases the opioid component of exploration to control levels, but increases anxiety in control males. [6]
Kinase Assay	Chub-S7 cells are incubated in DMEM containing cold DHEA (20 nM) and tritiated DHEA (0.2 μCi/well) for 48 h. Following incubation, steroids are extracted using dichloromethane separated by thin-layer chromatography using n-hexane/1-hexanol (75:25) as the mobile phase system. Metabolites are identified by comigration with unlabeled reference steroids that are visualized by exposure to Lieberman-Burchard reagent (ethanol-acetic anhydride-sulfuric acid). Steroid conversion is quantified using a LabLogic AR-200 scanner. Protein concentration is measured using a colorimetric 96-well plate assay and used to normalize conversion. Activity is expressed as percent conversion[2].

Solubility Information

Solubility	DMSO: 62.5 mg/mL (165.4 mM),Sonication is recommended. H2O: 37.1 mM,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6465 mL	13.2324 mL	26.4648 mL
5 mM	0.5293 mL	2.6465 mL	5.293 mL
10 mM	0.2646 mL	1.3232 mL	2.6465 mL
50 mM	0.0529 mL	0.2646 mL	0.5293 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

Williams KL, et al. Psychopharmacology (Berl), 1998, 139(1-2), 53-61.
Bienkowski P, et al. Eur J Pharmacol, 1999, 374(3), 321-327.
Shen KF, et al. Brain Res, 1997, 757(2), 176-190.
Powell KJ, et al. J Pharmacol Exp Ther, 2002, 300(2), 588-596.
Gonzales RA, et al. J Neurosci, 1998, 18(24), 10663-10671.