Data Sheet (Cat.No.T6579)

TargetMol

Medetomidine hydrochloride

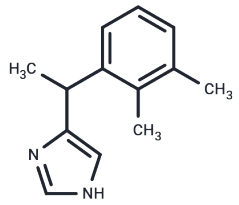
Chemical Properties

CAS No. : 86347-15-1

Formula: C13H16N2·HCl

Molecular Weight: 236.74

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	Medetomidine hydrochloride (MPV785) is a selective α2-adrenoceptor agonist, with Ki of 1.08 nM, exhibts 1620-fold selectivity over α1-adrenoceptor.
Targets(IC50)	Adrenergic Receptor
In vitro	Medetomidine is a selectiveα2-adrenoceptor agonist, with Ki of 1.08 nM, exhibits 1620-fold selectivity over α1-adrenoceptor, has very weak or no binding to other neurotransmitter receptors. [1]
In vivo	In anesthetized rats, medetomidine (1-100 μg/kg, i.v.) induces a dose-dependent, relatively short-lived reduction in blood pressure and heart rate. In the pithed rat, medetomidine shows very potent vasopressor (PD50 1.7 μg/kg) and sympatho-inhibitory (ID50 1.6 μg/kg) effects without affecting basal heart rate. [2] Medetomidine induces dose-dependent sedation, which at high doses (>100μg/kg) includes loss of the righting reflex and hypothermia. Medetomidine induces a decreases in the turnover rate of biogenic amines in the brain, dose-dependently inhibits norepinephrine (NE) turnover, inhibits brain dopamine turnover at high doses, decreases serotonin turnover. [3]

Solubility Information

Solubility	DMSO: 60 mg/mL (253.44 mM),Sonication is recommended. H2O: 23.7 mg/mL (100.11 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 (8.45 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	4.224 mL	21.1202 mL	42.2404 mL
5 mM	0.8448 mL	4.224 mL	8.4481 mL
10 mM	0.4224 mL	2.112 mL	4.224 mL
50 mM	0.0845 mL	0.4224 mL	0.8448 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

Vertanen R, et al. Eur J Pharmacol, 1988, 150(1-2), 9-14.
Savola JM, et al. J Auton Pharmacol, 1986, 6(4), 275-284.
MacDonald E, et al. Eur J Pharmacol, 1988, 158(1-2), 119-127.

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