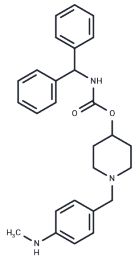
Data Sheet (Cat.No.T72038)

TargetMol

YM-58790

Chemical Properties



CAS No. : 168830-70-4

Formula: C27H31N3O2

Molecular Weight: 429.55

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	YM-58790 free base is a potent mAChR antagonist that inhibits M1 mAChR, M2 mAChR, and M3 mAChR with Ki values of 28 nM, 260 nM, and 15 nM, respectively. It inhibits reflex rhythmic bladder contractions in rats by inhibiting bladder pressurization.
Targets(IC50)	AChR
In vitro	YM-58790 free base (compound 18b) (0-1 μM) potently inhibits urinary bladder contraction with minimal impact on bradycardia. In vitro, YM-58790 selectively antagonizes urinary bladder contraction without significantly affecting salivary secretion. [1]
In vivo	YM-58790 free base (3 mg/kg, i.v.) exhibits no impact on oxotremorine-induced tremor in mice.[1] At 6.0 mg/kg, i.v., YM-58790 free base shows limited M1 and M2 antagonistic effects on McN-A343-induced pressor response in pithed rats but demonstrates robust M3 antagonism, with an ED30 value of 0.36 mg/kg and an ID50 value of 2.4 mg/kg.[1] Additionally, YM-58790 free base exhibits strong inhibitory activity on bladder pressure during reflexly-evoked rhythmic contractions in rats.[1]

Solubility Information

Solubility	DMSO: 60 mg/mL (139.68 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.328 mL	11.6401 mL	23.2802 mL
5 mM	0.4656 mL	2.328 mL	4.656 mL
10 mM	0.2328 mL	1.164 mL	2.328 mL
50 mM	0.0466 mL	0.2328 mL	0.4656 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

Naito R, et al. Selective muscarinic antagonists. I. Synthesis and antimuscarinic properties of 4-piperidyl benzhydrylcarbamate derivatives. Chem Pharm Bull (Tokyo). 1998 Aug;46(8):1274-85.