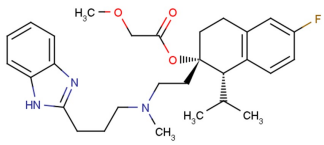
Data Sheet (Cat.No.TQ0153)

TargetMol
A DRUG SCREENING EXPERT

Mibefradil

Chemical Properties



CAS No.:	116644-53-2
Formula:	C29H38FN3O3
Molecular Weight:	495.63
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Mibefradil is a calcium channel blocker with moderate selectivity for T-type Ca2+ channels (IC50s: 2.7 μM and 18.6 μM for T-type and L-type currents).
In vitro	Mibefradil (Ro 40-5967) blocks T-type current already at a holding potential of -100 mV [1]. At a higher concentration (20 μM), Mibefradil reduces the amplitude of excitatory junction potentials (by 37±10 %), slows the rate of repolarisation (by 44 %) and causes a significant membrane potential depolarization (from −83±1 mV to −71±5 mV). At a higher Mibefradil concentration (20 μM) there is significant membrane potential depolarization and a slowing of repolarization [2].
In vivo	The hearing thresholds of the 24-26 week old C57BL/6J mice differed following the 4-week treatment period. The hearing threshold at 24 kHz is significantly decreased in the Mibefradil-treated and benidipine-treated groups compared with the saline-treated group [3]. Compared with the saline-treated group, rats receiving Mibefradil show significantly lower CaV3.2 expression in the spinal cord and DRG [4].

Solubility Information

Solubility	DMSO: 50 mg/mL (100.88 mM) Ethanol: 52 mg/mL (104.92 mM) Water: 95 mg/mL (191.68 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.018 mL	10.088 mL	20.176 mL
5 mM	0.404 mL	2.018 mL	4.035 mL
10 mM	0.202 mL	1.009 mL	2.018 mL
50 mM	0.04 mL	0.202 mL	0.404 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Mehrke G, et al. The Ca(++)-channel blocker Ro 40-5967 blocks differently T-type and L-type Ca++ channels. J Pharmacol Exp Ther. 1994 Dec;271(3):1483-8.
2. Brain KL, et al. The sources and sequestration of Ca(2+) contributing to neuroeffector Ca(2+) transients in the mouse vas deferens. J Physiol. 2003 Dec 1;553(Pt 2):627-35.
3. Yu YF, et al. Protection of the cochlear hair cells in adult C57BL/6J mice by T-type calcium channel blockers. Exp Ther Med. 2016 Mar;11(3):1039-1044.
4. Shiue SJ, et al. Chronic intrathecal infusion of T-type calcium channel blockers attenuates CaV3.2 upregulation in nerve-ligated rats. Acta Anaesthesiol Taiwan. 2016 Oct 17. pii: S1875-4597(16)30071-6.

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