Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Mibefradil

Catalog No: tcsc1218

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Specifications

CAS No:
116644-53-2

Formula:
$C_{29}H_{38}FN_3O_3$

Pathway:
Membrane Transporter/Ion Channel

Target:
Calcium Channel

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Alternative Names:
Ro 40-5967

Observed Molecular Weight:
495.63

Product Description

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Mibefradil is a **calcium channel** blocker with moderate selectivity for T-type Ca^{2+} channels displaying **IC_{50}**s of 2.7 μM and 18.6 μM for T-type and L-type currents, respectively.

IC50 & Target: IC50: 2.7 μM (T-type calcium channel), 18.6 μM (L-type calcium channel)[1]

In Vitro: Mibefradil inhibits reversibly the T- and L-type currents with IC_{50} values of 2.7 and 18.6 μM, respectively. The inhibition of the L-type current is voltage-dependent, whereas that of the T-type current is not. 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±16 %) and causes a significant membrane potential depolarisation (from −83±1 mV to −71±5 mV). At a higher Mibefradil concentration (20 μM) there is significant membrane potential depolarisation and a slowing of repolarisation. These actions of Mibefradil are consistent with K^+ channel inhibition, which has been shown to occur in human myoblasts and other cells[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 (P[3]. Compared with the saline-treated group, rats receiving Mibefradil or Ethosuximide show significant lower $Ca_V3.2$ expression in the spinal cord and DRG[4].