

Mibefradil (dihydrochloride)

Catalog No: tcsc1189



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg



Specifications

CAS No:

116666-63-8

Formula:

$C_{29}H_{40}Cl_2FN_3O_3$

Pathway:

Membrane Transporter/Ion Channel

Target:

Calcium Channel

Purity / Grade:

>98%

Solubility:

H₂O : ≥ 125 mg/mL (219.86 mM)

Alternative Names:

Ro 40-5967

Observed Molecular Weight:

568.55

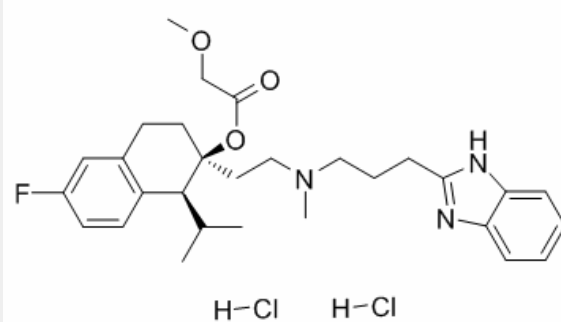
Product Description

Mibefradil dihydrochloride is a **calcium channel** blocker with moderate selectivity for T-type Ca^{2+} channels displaying **IC₅₀s** 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 dihydrochloride inhibits reversibly the T- and L-type currents with IC₅₀ 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 $37 \pm 10\%$), slows the rate of repolarisation (by $44 \pm 16\%$) 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 differ 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 $\text{Ca}_v3.2$ expression in the spinal cord and DRG^[4].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!