# Mibefradil dihydrochloride hydrate

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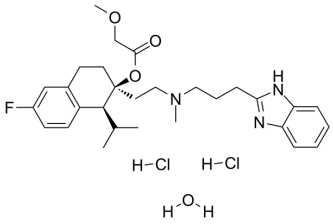
| **Cat. No.:** | HY-15553B |
| **CAS No.:** | 1049728-52-0 |
| **Molecular Formula:** | $C_{29}H_{42}Cl_2FN_3O_4$ |
| **Molecular Weight:** | 586.57 |
| **Target:** | Calcium Channel |
| **Pathway:** | Membrane Transporter/Ion Channel; Neuronal Signaling |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |




## BIOLOGICAL ACTIVITY

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| **Description** | Mibefradil dihydrochloride hydrate (Ro 40-5967 dihydrochloride hydrate) is a effectively long-acting calcium channel antagonist, used as an antihypertensive agent. Mibefradil dihydrochloride hydrate acts via a higher affinity block for low-voltage-activated (T) than for high-voltage-activated (L) calcium channels[1]. |
| **$IC_{50}$ & Target** | 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[2].<br>Mibefradil (20 μM) 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)[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- Br J Pharmacol. 2021 Jan;178(2):346-362.
- J Cell Physiol. 2021 Mar 11.
- Front Pharmacol. 2022 Feb 23;13:816133.
- Front Pharmacol. 23 February 2022.
- Mediat Inflamm. 2020 Nov 10;2020:3691701.

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## REFERENCES

[1]. Martin RL, Lee JH, Cribbs LL, Perez-Reyes E, Hanck DA. Mibefradil block of cloned T-type calcium channels. J Pharmacol Exp Ther. 2000 Oct;295(1):302-8.

[2]. 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.

[3]. 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.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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