# Bepridil hydrochloride hydrate

**Cat. No.:** HY-16952A

**CAS No.:** 74764-40-2

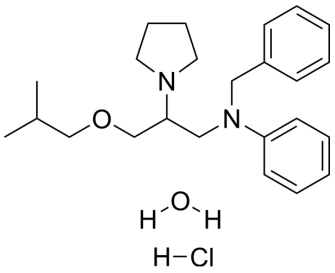
**Molecular Formula:** $C_{24}H_{37}ClN_2O_2$

**Molecular Weight:** 421.02

**Target:** Calcium Channel

**Pathway:** Membrane Transporter/Ion Channel; Neuronal Signaling

**Storage:** 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 125 mg/mL (296.90 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 2.3752 mL | 11.8759 mL | 23.7518 mL |
| | 5 mM | 0.4750 mL | 2.3752 mL | 4.7504 mL |
| | 10 mM | 0.2375 mL | 1.1876 mL | 2.3752 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.94 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.94 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.94 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Bepridil hydrochloride hydrate ((±)-Bepridil hydrochloride hydrate) is a non-selective, long-acting $Ca^+$ channel antagonist and $Na^+$, $K^+$ channel inhibitor, with antianginal and type I antiarrhythmic effects. Bepridil hydrochloride hydrate also acts as a cardiac $Na^+/Ca2^+$ exchange (NCX1) inhibitor. Bepridil hydrochloride hydrate can be used for the research of cardiovascular disorders[1][2][3][4][5].

**In Vitro**

Bepridil hydrochloride hydrate blockades of $Ca^{2+}$-dependent action potentials in vascular smooth muscle of dog coronary artery[2].

?Bepridil hydrochloride hydrate blocks Ca currents and Na currents with $IC_{50}$s of 0.5 μM and 30 μM, respectively in cultured ventricular cells[4].

| | |
|---|---|
| | ?Bepridil hydrochloride hydrate decreases $I_{Ks}$ under blockade of $I_{Kr}$ with E4031 (5 μM), in a concentration-dependent manner[5].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Bepridil hydrochloride hydrate exhibits a half-life of averages 33±15 hours after single-dose administration[6].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- Eur J Pharm Sci. 2023 May 22;106475.
- Eur J Pharm Sci. 2021, 105889.
- Virology. 2020 Jan 2;539:38-48.
- Virology. 2020 Jan 2;539:38-48.
- Research Square Preprint. 2024 Feb 9.

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## REFERENCES


[1]. A Gill, et al. Pharmacology of Bepridil. Am J Cardiol. 1992 Apr 9;69(11):11D-16D.

[2]. D R Harder, et al. Bepridil Blockade of Ca2+-dependent Action Potentials in Vascular Smooth Muscle of Dog Coronary Artery. J Cardiovasc Pharmacol. Jul-Aug 1981;3(4):906-14.

[3]. Yasuhide Watanabe. Cardiac Na +/Ca 2+ Exchange Stimulators Among Cardioprotective Drugs. J Physiol Sci. 2019 Nov;69(6):837-849.

[4]. A Yatani, et al. Bepridil Block of Cardiac Calcium and Sodium Channels. J Pharmacol Exp Ther. 1986 Apr;237(1):9-17.

[5]. J C Wang, et al. Bepridil Differentially Inhibits Two Delayed Rectifier K(+) Currents, I(Kr) and I(Ks), in Guinea-Pig Ventricular Myocytes. Br J Pharmacol. 1999 Dec;128(8):1733-8.

[6]. L Z Benet, et al. Pharmacokinetics and Metabolism of Bepridil. Am J Cardiol. 1985 Mar 15;55(7):8C-13C.





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