Gallopamil hydrochloride

Cat. No.: HY-14276A

CAS No.: 16662-46-7

Molecular Formula: $C_{28}H_{41}ClN_2O_5$

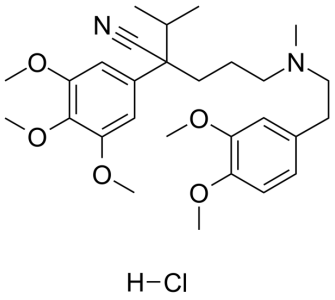
Molecular Weight: 521.09

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 : 100 mg/mL (191.91 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9191 mL	9.5953 mL	19.1905 mL
	5 mM	0.3838 mL	1.9191 mL	3.8381 mL
	10 mM	0.1919 mL	0.9595 mL	1.9191 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: ≥ 2.5 mg/mL (4.80 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.80 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.80 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Gallopamil hydrochloride (Methoxyverapamil hydrochloride), a methoxy derivative of Verapamil, is a phenylalkylamine calcium antagonist[1]. Gallopamil hydrochloride inhibits acid secretion in a concentration-dependent manner with an IC_{50} of 10.9 μM[2]. Gallopamil hydrochloride is a potent antiarrhythmic and vasodilator agent[3].

In Vivo

Gallopamil hydrochloride (Methoxyverapamil hydrochloride; i.v.; 0.2 mg/kg; for 5 min) markedly reduces ventricular tachycardia (VT) and totally prevents fibrillation (VF). Gallopamil significantly reduces systolic and diastolic blood pressure measured 5 min after injection without markedly influencing heart rate[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Wistar rats weighing 290-370 g[3]
Dosage:	0.2 mg/kg
Administration:	i.v.; 5 min
Result:	Markedly reduced VT and totally prevented VF.

REFERENCES

[1]. Brogden RN, et al. Gallopamil. A review of its pharmacodynamic and pharmacokinetic properties, and therapeutic potential in ischaemic heart disease. Drugs. 1994 Jan;47(1):93-115.

[2]. Sewing KF, et al. Calcium channel antagonists verapamil and gallopamil are powerful inhibitors of acid secretion in isolated and enriched guinea pig parietal cells. Pharmacology. 1983;27(1):9-14.

[3]. Kirchengast M, et al. Reperfusion arrhythmias in closed-chest rats: the effect of myocardial noradrenaline depletion and Ca2(+)-antagonism. Clin Exp Pharmacol Physiol. 1991 Apr;18(4):217-21.

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