# Zinterol hydrochloride

**Cat. No.:** HY-14304A

**CAS No.:** 38241-28-0

**Molecular Formula:** $C_{19}H_{27}ClN_2O_4S$

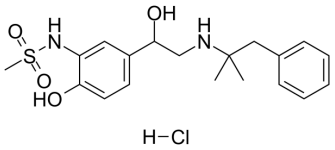
**Molecular Weight:** 414.95

**Target:** Adrenergic Receptor

**Pathway:** GPCR/G Protein; 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 : 50 mg/mL (120.50 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 2.4099 mL | 12.0496 mL | 24.0993 mL |
| | 5 mM | 0.4820 mL | 2.4099 mL | 4.8199 mL |
| | 10 mM | 0.2410 mL | 1.2050 mL | 2.4099 mL |

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

## BIOLOGICAL ACTIVITY

**Description**

Zinterol hydrochloride (MJ 9184 hydrochloride) is a potent and selective β2-adrenoceptor agonist[1]. Zinterol hydrochloride increases $I_{Ca}$ in a concentration-dependent manner with an $EC_{50}$ of 2.2 nM[2]. Zinterol hydrochloride induces ventricular arrhythmias in conscious heart failure rabbits[3].

**$IC_{50}$ & Target**

β2-adrenoceptor[1]

**In Vivo**

Zinterol (2.5 μg/kg i.v. bolus over 5 s) leads to ventricular arrhythmias including premature ventricular complexes (PVCs) and runs of ventricular tachycardia (VT) in heart failure (HF) rabbits. Zinterol at a lower dose (1 μg/kg i.v, n=4) does not induce ventricular arrhythmias in HF rabbits[3].

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

| | |
|---|---|
| Animal Model: | In New Zealand White HF rabbits of either sex[3] |
| Dosage: | 1.0 or 2.5 μg/kg |
| Administration: | Intravenous bolus administration; over 5 seconds |

| | |
|---|---|
| Result: | 2.5 μg/kg did not significantly alter heart rate or mean arterial blood pressure in either control or HF rabbits.<br>2.5 μg/kg led to ventricular arrhythmias including premature ventricular complexes (PVCs) and runs of VT (up to 13 beats long) in 4 of 6 HF rabbits (vs 0 of 5 controls, $p<0.01$). 1 μg/kg did not induce ventricular arrhythmias in HF rabbits. |

## CUSTOMER VALIDATION

- Seksjon for farmakologi og farmasøytisk biovitenskap Farmasøytisk institutt Det matematisk-naturvitenskapelige fakultet. 2020 Jul.

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## REFERENCES


[1]. Gwee MC, et al. Pharmacological actions of a new -adrenoceptor agonist, MJ-9184-1, in anaesthetized cats. Br J Pharmacol. 1972 Nov;46(3):375-85.

[2]. Skeberdis VA, et al. Beta-2 adrenergic activation of L-type $Ca^{2+}$ current in cardiac myocytes. J Pharmacol Exp Ther. 1997 Nov;283(2):452-61.

[3]. Desantiago J, et al. Arrhythmogenic effects of beta2-adrenergic stimulation in the failing heart are attributable to enhanced sarcoplasmic reticulum Ca load. Circ Res. 2008 Jun 6;102(11):1389-97.





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