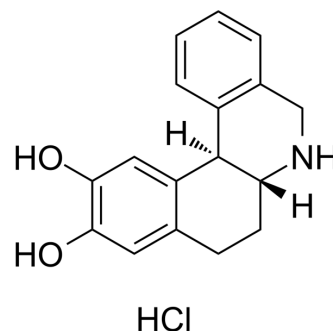


Dihydropyridine hydrochloride

Cat. No.:	HY-101299B
CAS No.:	137417-08-4
Molecular Formula:	C ₁₇ H ₁₈ ClNO ₂
Molecular Weight:	303.78
Target:	Dopamine 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 : 83.33 mg/mL (274.31 mM; Need ultrasonic)						
	H ₂ O : 10 mg/mL (32.92 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	3.2919 mL	16.4593 mL	32.9186 mL
				5 mM	0.6584 mL	3.2919 mL	6.5837 mL
10 mM				0.3292 mL	1.6459 mL	3.2919 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 (6.85 mM); Clear solution						
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (6.85 mM); Clear solution						
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (6.85 mM); Clear solution						

BIOLOGICAL ACTIVITY

Description	Dihydropyridine hydrochloride (DAR-0100 hydrochloride) is a high potent, selective and full efficacy D ₁ -like dopamine receptor (D ₁ /D ₅) agonist, with an IC ₅₀ of 10 nM for D ₁ receptor. Dihydropyridine hydrochloride exhibits potent antiparkinsonian activity [1][2][3][4]. Dihydropyridine hydrochloride can stimulate YAP phosphorylation[5].
IC ₅₀ & Target	D ₁ Receptor 10 nM (IC ₅₀)
In Vitro	Dihydropyridine (DAR-0100) strongly increased YAP phosphorylation in U2OS cells[5].

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

In Vivo

Dihydrxidine hydrochloride has poor oral bioavailability and a relatively short half-life of 1 to 2 h^[3].
Dihydrxidine hydrochloride (3 mg/kg; i.p.) produces prominent dopamine D1 receptor agonist effects in vivo^[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult male Sprague–Dawley rats (275-300 g) ^[4]
Dosage:	3 mg/kg
Administration:	Intraperitoneal injection
Result:	Produces prominent dopamine D1 receptor agonist effects in vivo.

CUSTOMER VALIDATION

- Arthritis Res Ther. 2022 Nov 2;24(1):247.
- Exp Cell Res. 2022 Nov 2;113407.

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REFERENCES

- [1]. Lovenberg TW, et al. Dihydrxidine, a novel selective high potency full dopamine D-1 receptor agonist. Eur J Pharmacol. 1989 Jul 4;166(1):111-3.
- [2]. Mottola DM, et al. Dihydrxidine, a novel full efficacy D1 dopamine receptor agonist. J Pharmacol Exp Ther. 1992 Jul;262(1):383-93.
- [3]. Salmi P, et al. Dihydrxidine--the first full dopamine D1 receptor agonist. CNS Drug Rev. 2004 Fall;10(3):230-42.
- [4]. Gleason, S. D., et al. Effects of dopamine D1 receptor agonists in rats trained to discriminate dihydrxidine. Psychopharmacology, 2006;186(1), 25–31.
- [5]. Yu FX, et al. Regulation of the Hippo-YAP pathway by G-protein-coupled receptor signaling. Cell. 2012;150(4):780-791.

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

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