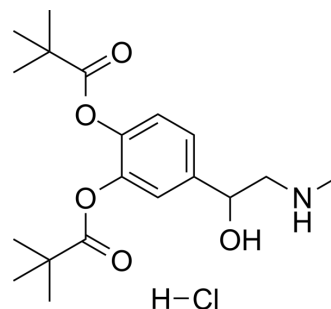


## Dipivefrin hydrochloride

<b>Cat. No.:</b>	HY-B1323
<b>CAS No.:</b>	64019-93-8
<b>Molecular Formula:</b>	C <sub>19</sub> H <sub>30</sub> ClNO <sub>5</sub>
<b>Molecular Weight:</b>	387.9
<b>Target:</b>	Endogenous Metabolite
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Storage:</b>	-20°C, stored under nitrogen, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 250 mg/mL (644.50 mM; Need ultrasonic)  
 H<sub>2</sub>O : ≥ 100 mg/mL (257.80 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.5780 mL	12.8899 mL	25.7798 mL
	5 mM	0.5156 mL	2.5780 mL	5.1560 mL
	10 mM	0.2578 mL	1.2890 mL	2.5780 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (5.36 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (5.36 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (5.36 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Dipivefrin hydrochloride (Dipivefrine hydrochloride) is an antiglaucoma proagent that is hydrolyzed to the active compound, epinephrine, by esterases in the cornea<sup>[1][2]</sup>.

#### In Vivo

Dipivefrin hydrochloride (0.3-10 μg/kg; i.p.;) induces enhancement of memory involves central beta- but not alpha-adrenergic mechanisms<sup>[3]</sup>.

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

Animal Model:	Male 60-day-old CFW mice (23-28 g) <sup>[3]</sup>
Dosage:	0.3 µg/kg, 1.0 µg/kg, 3.0 µg/kg, 10 µg/kg
Administration:	Intraperitoneal injection; post-training
Result:	Significantly enhanced retention of both inhibitory avoidance and Y-maze discrimination tasks in a dose-dependent manner.

## REFERENCES

- [1]. Edgar DF, et al. Effects of dipivefrin and pilocarpine on pupil diameter, automated perimetry and LogMAR acuity. *Graefes Arch Clin Exp Ophthalmol*. 1999 Feb;237(2):117-24.
- [2]. Anderson JA, et al. Effects of echothiophate on enzymatic hydrolysis of dipivefrin. *Arch Ophthalmol*. 1984 Jun;102(6):913-6.
- [3]. Introini-Collison I, et al. Memory-enhancing effects of post-training dipivefrin and epinephrine: involvement of peripheral and central adrenergic receptors. *Brain Res*. 1992 Feb 14;572(1-2):81-6.

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

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