Phenylephrine-2,4,6-d_3 hydrochloride

Cat. No.: HY-B0471S1

CAS No.: 1276197-50-2

Molecular Formula: $C_9H_{11}D_3ClNO_2$

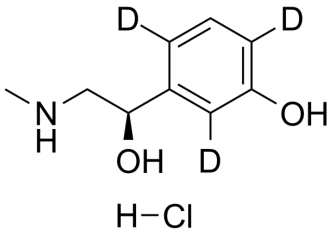
Molecular Weight: 206.68

Target: Adrenergic Receptor; Endogenous Metabolite

Pathway: GPCR/G Protein; Neuronal Signaling; Metabolic Enzyme/Protease

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 (241.92 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.8384 mL	24.1920 mL	48.3840 mL
	5 mM	0.9677 mL	4.8384 mL	9.6768 mL
	10 mM	0.4838 mL	2.4192 mL	4.8384 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: ≥ 1.25 mg/mL (6.05 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (6.05 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (6.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Phenylephrine-2,4,6-d_3 (hydrochloride) is the deuterium labeled Phenylephrine hydrochloride. (R)-(-)-Phenylephrine hydrochloride is a selective α1-adrenoceptor agonist with pKis of 5.86, 4.87 and 4.70 for α1D, α1B and α1A receptors respectively.

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

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

REFERENCES

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[4]. Wang J, et al. Phenylephrine promotes cardiac fibroblast proliferation through calcineurin-NFAT pathway. Front Biosci (Landmark Ed). 2016 Jan 1;21:502-13.

[5]. Lazou A, et al. Activation of mitogen-activated protein kinases (p38-MAPKs, SAPKs/JNKs and ERKs) by the G-protein-coupled receptor agonist phenylephrine in the perfused rat heart. Biochem J. 1998 Jun 1;332 (Pt 2):459-65.

[6]. Li NJ, et al. Effect of phenylephrine on alveolar fluid clearance in ventilator-induced lung injury. Chin Med Sci J. 2013 Mar;28(1):1-6.

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