## **Product** Data Sheet

## (S)-Phenylephrine-d<sub>6</sub> hydrochloride

Cat. No.: HY-B0471S2 Molecular Formula:  $C_9H_8D_6CINO_2$ 

Molecular Weight: 209.7

Pathway:

**Target:** Adrenergic Receptor; Endogenous Metabolite; Isotope-Labeled Compounds

Storage: Please store the product under the recommended conditions in the Certificate of

GPCR/G Protein; Neuronal Signaling; Metabolic Enzyme/Protease; Others

Analysis.

## **BIOLOGICAL ACTIVITY**

Description	(S)-Phenylephrine- $d_6$ (hydrochloride) is deuterium labeled Phenylephrine (hydrochloride). (R)-(-)-Phenylephrine hydrochloride is a selective $\alpha$ 1-adrenoceptor agonist with pKis of 5.86, 4.87 and 4.70 for $\alpha$ 1D, $\alpha$ 1B and $\alpha$ 1A 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 <sup>[1]</sup> .  MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## **REFERENCES**

- $[1]. Russak \, EM, et al. \, Impact of \, Deuterium \, Substitution \, on \, the \, Pharmacokinetics \, of \, Pharmaceuticals. \, Ann \, Pharmacother. \, 2019; 53(2): 211-216.$
- [2]. Ford AP, et al. Pharmacological pleiotropism of the human recombinant alpha1A-adrenoceptor: implications foralpha1-adrenoceptor classification. Br J Pharmacol. 1997 Jul;121(6):1127-35.
- [3]. 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.
- [4]. 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.
- [5]. Minneman KP, et al. Selectivity of agonists for cloned alpha 1-adrenergic receptor subtypes. Mol Pharmacol. 1994 Nov;46(5):929-36.
- [6]. Wang J, et al. Phenylephrine promotes cardiac fibroblast proliferation through calcineurin-NFAT pathway. Front Biosci (Landmark Ed). 2016 Jan 1;21:502-13.

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

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