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## Product Data Sheet

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Product Name: Phenylephrine-d3 hydrochloride

Cat. No.: GC63947

### Chemical Properties

Cas. No. 1217858-50-8

Formula C<sub>9</sub>H<sub>11</sub>D<sub>3</sub>CINO<sub>2</sub>

M.Wt

206.68

Solubility

Storage

Store at -20°C

General tips

For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

### Background

Phenylephrine-d3 (R)-(-)-Phenylephrine-d3 hydrochloride is the deuterium labeled Phenylephrine hydrochloride. (R)-(-)-Phenylephrine hydrochloride is a selective  $\alpha$ 1-adrenoceptor agonist with pK<sub>i</sub>s of 5.86, 4.87 and 4.70 for  $\alpha$ 1D,  $\alpha$ 1B and  $\alpha$ 1A receptors respectively.

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].

[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 for alpha1-adrenoceptor classification. *Br J Pharmacol.* 1997 Jul;121(6):1127-35.

[3]. Minneman KP, et al. Selectivity of agonists for cloned alpha 1-adrenergic receptor subtypes. *Mol Pharmacol.* 1994 Nov;46(5):929-36.

[4]. 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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- [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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