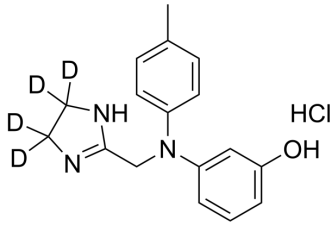
Phentolamine-d_4 hydrochloride

Cat. No.:	HY-12717AS
CAS No.:	1346599-65-2
Molecular Formula:	$C_{17}H_{16}D_4ClN_3O$
Molecular Weight:	285.38
Target:	Adrenergic Receptor; Isotope-Labeled Compounds
Pathway:	GPCR/G Protein; Neuronal Signaling; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Phentolamine-d_4 (hydrochloride) is the deuterium labeled Phentolamine hydrochloride. Phentolamine hydrochloride is a reversible, non-selective, and orally active blocker of α1 and α2 adrenergic receptor that expands blood vessels to reduce peripheral vascular resistance. Phentolamine hydrochloride can be used for the research of pheochromocytoma-related hypertension, heart failure and erectile dysfunction[1][2][3].
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

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Gould L, et, al. Phentolamine. Am Heart J. 1976 Sep;92(3):397-402.

[3]. Goldstein I, et, al. Oral phentolamine: an alpha-1, alpha-2 adrenergic antagonist for the treatment of erectile dysfunction. Int J Impot Res. 2000 Mar;12 Suppl 1:S75-80.

[4]. Liu L, et, al. Evidence for functional alpha 2D-adrenoceptors in the rat intestine. Br J Pharmacol. 1996 Mar;117(5):787-92.

[5]. Pan L, et, al. Phentolamine inhibits angiogenesis in vitro: Suppression of proliferation migration and differentiation of human endothelial cells. Clin Hemorheol Microcirc. 2017;65(1):31-41.

[6]. Fioretti AC, et, al. Renal and femoral venous blood flows are regulated by different mechanisms dependent on α-adrenergic receptor subtypes and nitric oxide in anesthetized rats. Vascul Pharmacol. 2017 Dec;99:53-64.

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