Metoprolol-d_7 hydrochloride

Cat. No.: HY-17503AS

CAS No.: 1219798-61-4

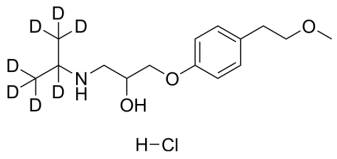
Molecular Formula: $C_{15}H_{19}D_7ClNO_3$

Molecular Weight: 310.87

Target: Adrenergic Receptor; Isotope-Labeled Compounds

Pathway: GPCR/G Protein; Neuronal Signaling; Others

Storage: -20°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (321.68 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2168 mL	16.0839 mL	32.1678 mL
	5 mM	0.6434 mL	3.2168 mL	6.4336 mL
	10 mM	0.3217 mL	1.6084 mL	3.2168 mL

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

BIOLOGICAL ACTIVITY

Description

Metoprolol-d_7 (hydrochloride) is the deuterium labeled Metoprolol. Metoprolol is an orally active, selective β1-adrenoceptor antagonist. Metoprolol shows anti-inflammation, antitumor and anti-angiogenic properties[1][2][3][4].

IC_{50} & Target

β adrenergic receptor

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]. Ulleryd MA, et al. Metoprolol reduces proinflammatory cytokines and atherosclerosis in ApoE-/- mice. Biomed Res Int. 2014;2014:548783.

[2]. Wang D, et al. Carvedilol has stronger anti-inflammation and anti-virus effects than metoprolol in murine model with coxsackievirus B3-induced viral myocarditis. Gene.

2014 Sep 1;547(2):195-201.

[3]. Hajatbeigi B, et al. Cytotoxicity of Metoprolol on Leukemic Cells in Vitro. IJBC 2018; 10(4): 124-129.

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

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