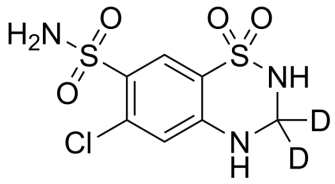
Hydrochlorothiazid-d_2

Cat. No.:	HY-B0252S
CAS No.:	1219798-89-6
Molecular Formula:	$C_7H_6D_2ClN_3O_4S_2$
Molecular Weight:	299.75
Target:	TGF-beta/Smad; Potassium Channel
Pathway:	Stem Cell/Wnt; TGF-beta/Smad; Membrane Transporter/Ion Channel
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (166.81 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3361 mL	16.6806 mL	33.3611 mL
	5 mM	0.6672 mL	3.3361 mL	6.6722 mL
	10 mM	0.3336 mL	1.6681 mL	3.3361 mL

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

BIOLOGICAL ACTIVITY

Description

Hydrochlorothiazid-d_2 is the deuterium labeled Hydrochlorothiazide. Hydrochlorothiazide (HCTZ), an orally active diuretic agent of the thiazide class, inhibits transforming TGF-β/Smad signaling pathway. Hydrochlorothiazide has direct vascular relaxant effects via opening of the calcium-activated potassium (KCA) channel. Hydrochlorothiazide improves cardiac function, reduces fibrosis and has antihypertensive effect[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]. Duarte, J.D. and R.M. Cooper-DeHoff, Mechanisms for blood pressure lowering and metabolic effects of thiazide and thiazide-like diuretics. Expert Rev Cardiovasc Ther, 2010. 8(6): p. 793-802.

[3]. Magdy M Abdelquader, et al. Inhibition of Co-Crystallization of Olmesartan Medoxomil and Hydrochlorothiazide for Enhanced Dissolution Rate in Their Fixed Dose Combination. AAPS PharmSciTech. 2018 Dec 17;20(1):3.

[4]. Jinghong Luo, et al. Hydrochlorothiazide modulates ischemic heart failure-induced cardiac remodeling via inhibiting angiotensin II type 1 receptor pathway in rats. Cardiovasc Ther. 2017 Apr;35(2).

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