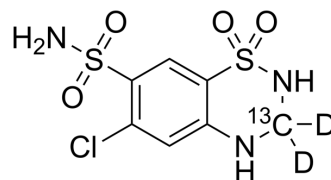


Hydrochlorothiazid-¹³C,₂

Cat. No.:	HY-B0252S1	
CAS No.:	1190006-03-1	
Molecular Formula:	C ₆ ¹³ CH ₆ D ₂ ClN ₃ O ₄ S ₂	
Molecular Weight:	300.74	
Target:	TGF-beta/Smad; Potassium Channel; Isotope-Labeled Compounds	
Pathway:	Stem Cell/Wnt; TGF-beta/Smad; Membrane Transporter/Ion Channel; Others	
Storage:	Powder	-20°C 3 years
	In solvent	-80°C 6 months
		-20°C 1 month



BIOLOGICAL ACTIVITY

Description

Hydrochlorothiazid-¹³C,₂ is the ¹³C- and 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^[71].
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):211-223.
- [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]. 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).
- [4]. 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.

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

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