
Product Data Sheet

Product Name: Hydrochlorothiazid-d2

Cat. No.: GC64326

Chemical Properties

Cas. No. 1219798-89-6

Formula C7H6D2CIN3O4S2

M.Wt 299.75

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

Hydrochlorothiazid-d2 (HCTZ-d2) is the deuterium labeled Hydrochlorothiazide. Hydrochlorothiazide (HCTZ), an orally active diuretic drug 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].

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]. 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).

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

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[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.

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