

Product Data Sheet

Product Name: Itraconazole-d9

Cat. No.: GC74091

Chemical Properties

Cas. No. 1309272-50-1

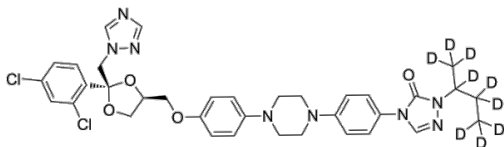
Formula $C_{35}H_{29}D_9Cl_2N_8O_4$ M.Wt 714.69

Solubility DMSO : 6.25 mg/mL (8.75 mM; Need ultrasonic and warming) Storage -20°C, protect from light, stored under nitrogen

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

Itraconazole-d9 is the deuterium labeled Itraconazole[1]. Itraconazole (R51211) is a triazole antifungal agent and a potent and orally active Hedgehog (Hh) signaling pathway antagonist with an IC50 of ~800 nM. Itraconazole potently inhibits lanosterol 14 α -demethylase (cytochrome P450 enzyme), thereby inhibits the oxidative conversion of lanosterol to ergosterol. Itraconazole has anticancer and antiangiogenic effects. Itraconazole is a oxysterol-binding protein (OSBP) inhibitor[2][3][4][5].

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

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Stable heavy isotopes of drogen, 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].

References:

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.
- [2]. Kim, J., et al., Itraconazole, a commonly used antifungal that inhibits Hedgehog pathway activity and cancer growth. Cancer Cell, 2010. 17(4): p. 388-99.
- [3]. Chong, C.R., et al., Inhibition of angiogenesis by the antifungal drug itraconazole. ACS Chem Biol, 2007. 2(4): p. 263-70.
- [4]. Pace JR, et al. Repurposing the Clinically Efficacious Antifungal Agent Itraconazole as an Anticancer Chemotherapeutic. J Med Chem. 2016 Apr 28;59(8):3635-49.
- [5]. Albulescu L, et al. Uncovering oxysterol-binding protein (OSBP) as a target of the anti-enteroviral compound TTP-8307. Antiviral Res. 2017;140:37-44.

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