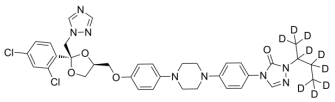
Itraconazole-d_9

Cat. No.:	HY-17514S2
CAS No.:	1309272-50-1
Molecular Formula:	$C_{35}H_{29}D_9Cl_2N_8O_4$
Molecular Weight:	714.69
Target:	Fungal; Hedgehog; Bacterial; Autophagy; Cytochrome P450; Antibiotic
Pathway:	Anti-infection; Stem Cell/Wnt; Autophagy; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Itraconazole-d_9 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 14α-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].
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 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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