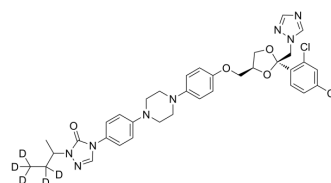


Itraconazole-d₅

| | | | |
|---------------------------|--|-------|----------|
| Cat. No.: | HY-17514S | | |
| CAS No.: | 1217510-38-7 | | |
| Molecular Formula: | C ₃₅ H ₃₃ D ₅ Cl ₂ N ₈ O ₄ | | |
| Molecular Weight: | 710.66 | | |
| Target: | Fungal; Autophagy; Hedgehog; Cytochrome P450; Antibiotic | | |
| Pathway: | Anti-infection; Autophagy; Stem Cell/Wnt; Metabolic Enzyme/Protease | | |
| Storage: | Powder | -20°C | 3 years |
| | In solvent | -80°C | 6 months |
| | | -20°C | 1 month |



BIOLOGICAL ACTIVITY

Description

Itraconazole-d₅ is the deuterium labeled Itraconazole. 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[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]. 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.

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

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