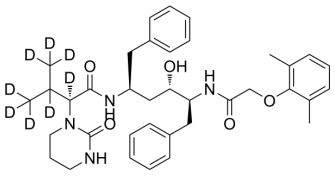
Lopinavir-d_8

Cat. No.:	HY-14588S1
CAS No.:	1224729-35-4
Molecular Formula:	$C_{37}H_{40}D_8N_4O_5$
Molecular Weight:	636.85
Target:	HIV; HIV Protease; SARS-CoV
Pathway:	Anti-infection; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Lopinavir-d_8 (ABT-378-d8) is the deuterium labeled Lopinavir. Lopinavir (ABT-378) is a highly potent, selective peptidomimetic inhibitor of the HIV-1 protease, with Kis of 1.3 to 3.6 pM for wild-type and mutant HIV protease. Lopinavir acts by arresting maturation of HIV-1 thereby blocking its infectivity[1][2]. Lopinavir is also a SARS-CoV 3CLpro inhibitor with an IC50 of 14.2 μM[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]. Cvetkovic RS, et al. Lopinavir/ritonavir: a review of its use in the management of HIV infection. Drugs. 2003;63(8):769-802.

[3]. Sham HL, et al. ABT-378, a highly potent inhibitor of the human immunodeficiency virus protease. Antimicrob Agents Chemother. 1998;42(12):3218-3224.

[4]. Qi Sun, et al. Bardoxolone and bardoxolone methyl, two Nrf2 activators in clinical trials, inhibit SARS-CoV-2 replication and its 3C-like protease. Signal Transduct Target Ther. 2021 May 29;6(1):212.

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