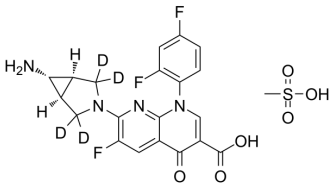
Trovafloxacin-d4 mesylate

Cat. No.:	HY-103399S
CAS No.:	1346601-60-2
Molecular Formula:	$C_{21}H_{15}D_4F_3N_4O_6S$
Molecular Weight:	516.48
Target:	Bacterial; Topoisomerase; Antibiotic
Pathway:	Anti-infection; Cell Cycle/DNA Damage
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Trovafloxacin-d4 mesylate is the deuterium labeled Trovafloxacin mesylate. Trovafloxacin mesylate is a broad-spectrum quinolone antibiotic with potent activity against Gram-positive, Gram-negative and anaerobic organisms. Trovafloxacin mesylate blocks the DNA gyrase and topoisomerase IV activity. Trovafloxacin mesylate is also a potent, selective and orally active pannexin 1 channel (PANX1) inhibitor with an IC_{50} of 4 μM for PANX1 inward current. Trovafloxacin mesylate does not inhibit connexin 43 gap junction or PANX2. Trovafloxacin mesylate leads to dysregulated fragmentation of apoptotic cells by inhibiting PANX1[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]. Giustarini G, et al. The hepatotoxic fluoroquinolone trovafloxacin disturbs TNF- and LPS-induced p65 nuclear translocation in vivo and in vitro. Toxicol Appl Pharmacol. 2020 Mar 15;391:114915.

[3]. Poon IK, et al. Unexpected link between an antibiotic, pannexin channels and apoptosis. Nature. 2014 Mar 20;507(7492):329-34.

[4]. Gootz TD, et al. Activity of the new fluoroquinolone trovafloxacin (CP-99,219) against DNA gyrase and topoisomerase IV mutants of Streptococcus pneumoniae selected in vitro. Antimicrob Agents Chemother. 1996 Dec;40(12):2691-7.

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