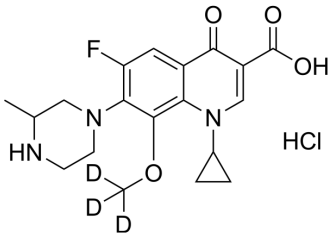
Gatifloxacin-d_3 hydrochloride

Cat. No.:	HY-10581AS
Molecular Formula:	$C_{19}H_{20}D_3ClFN_3O_4$
Molecular Weight:	414.87
Target:	Topoisomerase; Bacterial; Antibiotic; Isotope-Labeled Compounds
Pathway:	Cell Cycle/DNA Damage; Anti-infection; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Gatifloxacin-d_3 (hydrochloride) is the deuterium labeled Gatifloxacin (hydrochloride). Gatifloxacin hydrochloride (AM-1155; BMS-206584; PD135432) is a potent fluoroquinolone antibiotic with broad-spectrum antibacterial activity. Gatifloxacin hydrochloride inhibits bacterial type II topoisomerases (IC50=13.8 μg/ml for S. aureus topoisomerase IV) and E. coli DNA gyrase (IC50 = 0.109 μg/ml). Gatifloxacin hydrochloride can be used to treat bacterial conjunctivitis in vivo.
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]. Daw-Garza A, et al. In vivo therapeutic effect of Gatifloxacin mesylate on BALB/c mice infected with Nocardia brasiliensis.Antimicrob Agents Chemother. 2008 Apr;52(4):1549-50.

[2]. Fukuda H, et al. Antibacterial activity of Gatifloxacin hydrochloride (AM-1155, CG5501, BMS-206584), a newly developed fluoroquinolone, against sequentially acquired quinolone-resistant mutants and the norA transformant of Staphylococcus aureus. Antimicrob Agents Chemother. 1998 Aug;42(8):1917-22.

[3]. Takei M, et al. Inhibitory activities of Gatifloxacin hydrochloride (AM-1155), a newly developed fluoroquinolone, against bacterial and mammalian type II topoisomerases.Antimicrob Agents Chemother. 1998 Oct;42(10):2678-81.

[4]. Yamada C, et al. Gatifloxacin hydrochloride acutely stimulates insulin secretion and chronically suppresses insulin biosynthesis. Eur J Pharmacol. 2006 Dec 28;553(1-3):67-72. Epub 2006 Sep 28.

[5]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA