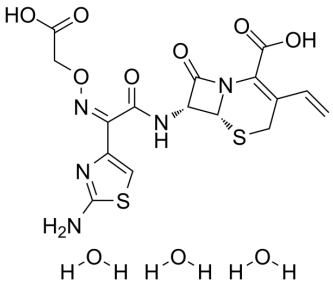
Cefixime trihydrate

Cat. No.:	HY-B1381A
CAS No.:	125110-14-7
Molecular Formula:	$C_{16}H_{21}N_5O_{10}S_2$
Molecular Weight:	507.5
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Cefixime trihydrate (FR-17027 trihydrate) is an antibiotic and a third generation cephalosporin antibiotic, useful for the treatment of a number of bacterial infections[1][2].
IC_{50} & Target	β-lactam
In Vitro	Cefixime trihydrate shows great antibacterial activity against clinical isolates of Salmonella typhi, with a MIC90 value of 0.25 μg/mL, and is also active against β-lactamase producing Amoxicillin (HY-B0467A)-resistant strains[3]. Cefixime trihydrate is also active against Enterobacteriaceae, such as Haemophilus influenzae, and Neisseria gonorrhoeae[6]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Cefixime (0.75-60 mg/kg, oral gavage) trihydrate reduces the bacterial burden in mice challenged with FA1090 (ESC-susceptible strain)[4]. Cefixime (50 or 150 mg/kg, oral gavage) trihydrate changes the structure and abundance of the gut microbiota of C57BL/6J mice, specifically, a reduction in the diversities of the microbial community and decreasing to one preponderant Firmicutes phylum[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Microbiol Spectr. 2023 Apr 24;e0069223.
- Biomed Res Int. 2018 Jul 2;2018:3579832.

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REFERENCES

[1]. Matsumoto Y, et al. Antibacterial activity of cefixime against Salmonella typhi and applicability of Etest. J Infect Chemother. 1999 Sep;5(3):176-179.

[2]. Connolly KL, et al. Pharmacokinetic Data Are Predictive of In Vivo Efficacy for Cefixime and Ceftriaxone against Susceptible and Resistant Neisseria gonorrhoeae Strains

in the Gonorrhea Mouse Model. Antimicrob Agents Chemother. 2019 Feb 26;63(3):e01644-18.

[3]. Shi Y, et al. Restoration of cefixime-induced gut microbiota changes by Lactobacillus cocktails and fructooligosaccharides in a mouse model. Microbiol Res. 2017 Jul;200:14-24.

[4]. Stone JW, et al. Cefixime, in-vitro activity, pharmacokinetics and tissue penetration. J Antimicrob Chemother. 1989 Feb;23(2):221-8.

[5]. Neu HC, et al. In vitro activity of a new broad spectrum, beta-lactamase-stable oral cephalosporin, cefixime. Pediatr Infect Dis J. 1987 Oct;6(10):958-62.

[6]. Unemo M, et al. High-level cefixime- and ceftriaxone-resistant Neisseria gonorrhoeae in France: novel penA mosaic allele in a successful international clone causes treatment failure. Antimicrob Agents Chemother. 2012 Mar;56(3):1273-80.

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