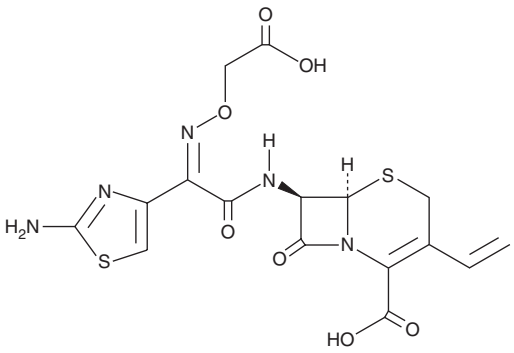
PRODUCT INFORMATION

Cefixime

Item No. 17176

CAS Registry No.:	79350-37-1
Formal Name:	(6R,7R)-7-[[(2Z)-2-(2-amino-4-thiazolyl)-2-[carboxymethoxy)imino]acetyl]amino]-3-ethenyl-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid
Synonyms:	CL-284635, FK-027, FR17027
MF:	$C_{16}H_{15}N_5O_7S_2$
FW:	453.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 205, 232, 295 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Cefixime is supplied as a crystalline solid. A stock solution may be made by dissolving the cefixime in the solvent of choice, which should be purged with an inert gas. Cefixime is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of cefixime in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of cefixime can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cefixime in PBS (pH 7.2) is approximately 0.2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cefixime is a cephalosporin antibiotic.[1] It is active against numerous Gram-negative bacteria, including clinical isolates of *E. coli*, *K. pneumoniae*, and *P. mirabilis* (MIC_{90}s = 3.13, 0.2, and ≤0.025 µg/ml, respectively), as well as clinical isolates of the Gram-positive bacteria *S. pneumoniae* and *S. pyogenes* (MIC_{90}s = 0.2 and 0.39 µg/ml, respectively).[2] Cefixime is resistant to hydrolysis by β-lactamases isolated from several bacteria compared to cefaclor (Item No. 23626), cephalexin (Item No. 9002009), or cefradine (Item No. 26060).[1] It increases survival in mice infected with *E. coli*, *K. pneumoniae*, or *P. mirabilis* (ED_{50}s = 0.212, 0.132, and 0.349 mg/kg, respectively).[2] Formulations containing cefixime have been used in the treatment of bacterial infections.

References

1. Neu, H.C., Chin, N.X., and Labthavikul, P. Comparative in vitro activity and β-lactamase stability of FR 17027, a new orally active cephalosporin. *Antimicrob. Agents Chemother.* **26(2)**, 174-180 (1984).
2. Kamimura, T., Kojo, H., Matsumoto, Y., *et al.* In vitro and in vivo antibacterial properties of FK 027, a new orally active cephem antibiotic. *Antimicrob. Agents Chemother.* **25(1)**, 98-104 (1984).

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