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Produktinformation

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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION

Cefprozil-d_4

Item No. 33639

Formal Name: (6R,7R)-7-((R)-2-amino-2-(4-hydroxyphenyl-2,3,5,6-d_4)acetamido)-8-oxo-3-((E)-prop-1-en-1-yl)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid

MF: $C_{18}H_{15}D_4N_3O_5S$

FW: 393.5

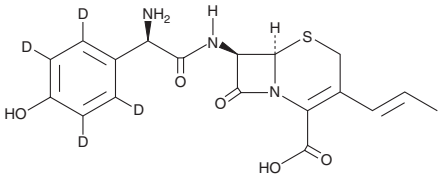
Chemical Purity: ≥98% (Cefprozil)

Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0

Supplied as: A solid

Storage: -20°C

Stability: ≥2 years



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

Laboratory Procedures

Cefprozil-d_4 is intended for use as an internal standard for the quantification of cefprozil (Item No. 23840) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Cefprozil-d_4 is supplied as a solid. A stock solution may be made by dissolving the cefprozil-d_4 in the solvent of choice, which should be purged with an inert gas. Cefprozil-d_4 is soluble in methanol and DMSO.

Description

Cefprozil is an orally bioavailable, second generation, broad-spectrum cephalosporin antibiotic that inhibits the growth of both Gram-positive and Gram-negative bacteria.[1,2] It inhibits the growth of *E. coli*, *E. faecalis*, *E. faecium*, *N. gonorrhoeae*, *N. meningitidis*, *P. mirabilis*, *S. aureus*, *S. pyogenes*, and *S. pneumoniae* strains (MICs = 0.013-25 µg/ml) and clinical isolates of penicillin-susceptible, -intermediate, and -resistant *S. pneumoniae* and methicillin-sensitive *S. aureus* (MIC_{90}s = 0.12-16 µg/ml). *In vivo*, cefprozil protects mice challenged with *E. coli*, *S. aureus*, *S. pyogenes*, and *P. mirabilis* strains with protective doses (PD_{50}s) ranging from 0.07 to 1.3 mg/kg.[1] Cefprozil binds to penicillin-binding proteins (PBPs), which disrupts their ability to cross-link peptidoglycan and leads to weakened bacterial cell walls.[3] Formulations containing cefprozil have been used in the treatment of respiratory tract, skin, and other bacterial infections.

References

1. Tomatsu, K., Ando, S., Masuyoshi, S., *et al.* *In vitro* and *in vivo* evaluations of BMY-28100, a new oral cephalosporin. *J. Antibiot. (Tokyo)* **40(8)**, 1175-1183 (1987).
2. Peric, M., Browne, F.A., Jacobs, M.R., *et al.* Activity of nine oral agents against gram-positive and gram-negative bacteria encountered in community-acquired infections: Use of pharmacokinetic/pharmacodynamic breakpoints in the comparative assessment of beta-lactam and macrolide antimicrobial agents. *Clin. Ther.* **25(1)**, 169-177 (2003).
3. Nagai, K., Davies, T.A., Jacobs, M.R., *et al.* Effects of amino acid alterations in penicillin-binding proteins (PBPs) 1a, 2b, and 2x on PBP affinities of penicillin, ampicillin, amoxicillin, cefditoren, cefuroxime, cefprozil, and cefaclor in 18 clinical isolates of penicillin-susceptible, -intermediate, and -resistant pneumococci. *Antimicrob. Agents Chemother.* **46(5)**, 1273-1280 (2002).

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