

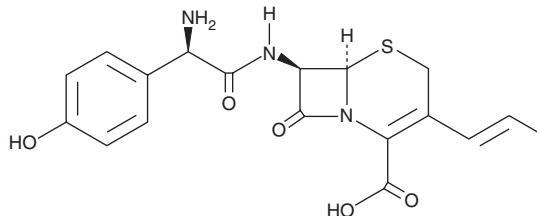
# PRODUCT INFORMATION



## Cefprozil

Item No. 23840

**CAS Registry No.:** 92665-29-7  
**Formal Name:** (6R,7R)-7-[[[(2R)-2-amino-2-(4-hydroxyphenyl)acetyl]amino]-8-oxo-3-(1-propen-1-yl)-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
**Synonym:** BMY-28100  
**MF:** C<sub>18</sub>H<sub>19</sub>N<sub>3</sub>O<sub>5</sub>S  
**FW:** 389.4  
**Purity:** ≥95% (mixture of cis and trans)  
**UV/Vis.:** λ<sub>max</sub>: 232, 283 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

Cefprozil is supplied as a crystalline solid. A stock solution may be made by dissolving the cefprozil in the solvent of choice, which should be purged with an inert gas. Cefprozil is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of cefprozil in these solvents is approximately 2.5 and 0.3 mg/ml, respectively.

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 cefprozil can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cefprozil in PBS, pH 7.2, is approximately 1.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Cefprozil is an orally bioavailable, second generation, broad-spectrum cephalosporin antibiotic that inhibits the growth of both Gram-positive and Gram-negative bacteria.<sup>1,2</sup> 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<sub>90</sub>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<sub>50</sub>S) ranging from 0.07 to 1.3 mg/kg.<sup>1</sup> Cefprozil binds to penicillin-binding proteins (PBPs), which disrupts their ability to cross-link peptidoglycan and leads to weakened bacterial cell walls.<sup>3</sup> 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. *J. Antibiot. (Tokyo)* **40(8)**, 1175-1183 (1987).
2. Peric, M., Browne, F.A., Jacobs, M.R., et al. *Clin. Ther.* **25(1)**, 169-177 (2003).
3. Nagai, K., Davies, T.A., Jacobs, M.R., et al. *Antimicrob. Agents Chemother.* **46(5)**, 1273-1280 (2002).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM