

# PRODUCT INFORMATION

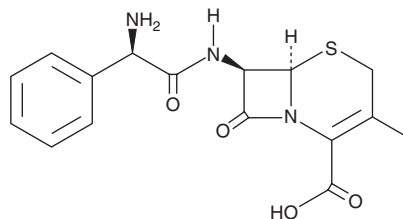


## Cephalexin

Item No. 9002009

**CAS Registry No.:** 15686-71-2  
**Formal Name:** (6R,7R)-7-[[[(2R)-2-amino-2-phenylacetyl]amino]-3-methyl-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid

**Synonym:** Cefalexin  
**MF:** C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O<sub>4</sub>S  
**FW:** 347.4  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 205, 265 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

Cephalexin is supplied as a crystalline solid. Aqueous solutions of cephalexin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cephalexin in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Cephalexin is a cephalosporin antibiotic that is active against most Gram-positive cocci, including penicillinase-producing *Staphylococci*, and against Gram-negative bacteria such as *N. gonorrhoeae*, *E. coli*, *K. pneumoniae*, *Salmonellae*, *Shigella*, and some strains of *H. influenzae*.<sup>1</sup> It is not effective against *Proteus* species, *Pseudomonas*, or mycobacteria.<sup>1</sup> Cephalexin specifically inactivates penicillin-binding protein (PBP) 3, which is essential for bacterial cell wall synthesis.<sup>2</sup> It has been combined with antibiotics that preferentially target alternate PBP isotypes as a strategy to combat drug-resistant bacteria.<sup>3</sup>

### References

1. Bailey, A., Walker, A., Hadley, A., *et al.* Cephalexin. A new oral antibiotic. *Torax*. **20(1)**, 15-19 (1971).
2. Iwai, N., Nagai, K., and Wachi, M. Novel S-benzylisothiurea compound that induces spherical cells in *Escherichia coli* probably by acting on a rod-shape-determining protein(s) other than penicillin-binding protein 2. *Biosci. Biotechnol. Biochem.* **66(12)**, 2658-2662 (2002).
3. Sarkar, S.K., Dutta, M., Kumar, A., *et al.* Sub-inhibitory cefsulodin sensitization of *E. coli* to β-lactams is mediated by PBP1b inhibition. *PLoS One* **7(11)**, (2012).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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