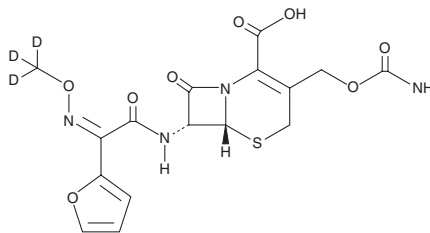


# PRODUCT INFORMATION



## Cefuroxime-d<sub>3</sub> Item No. 31163

**CAS Registry No.:** 1803240-98-3  
**Formal Name:** (6R,7R)-3-((carbamoyloxy)methyl)-7-((Z)-2-(furan-2-yl)-2-((methoxy-d<sub>3</sub>)imino)acetamido)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid  
**MF:** C<sub>16</sub>H<sub>13</sub>D<sub>3</sub>N<sub>4</sub>O<sub>8</sub>S  
**FW:** 427.4  
**Chemical Purity:** ≥95% (Cefuroxime)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A 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

Cefuroxime-d<sub>3</sub> is intended for use as an internal standard for the quantification of cefuroxime (Item No. 23627) 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).

Cefuroxime-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the cefuroxime-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Cefuroxime-d<sub>3</sub> is slightly soluble in DMSO and in methanol (warmed).

### Description

Cefuroxime is a cephalosporin antibiotic with broad-spectrum activity against Gram-positive and Gram-negative bacteria including *S. pyogenes*, *S. pneumoniae*, *S. viridans*, *E. coli*, *P. mirabilis*, *H. influenzae*, and *N. gonorrhoeae* (mean MICs = 0.005-8.2 µg/ml).<sup>1</sup> Like other cephalosporins, cefuroxime inhibits peptidoglycan crosslinking and bacterial cell wall synthesis.<sup>2</sup> It is resistant to hydrolysis by bacterial β-lactamases, increasing its efficacy against β-lactamase-producing Gram-negative bacteria.<sup>3</sup> Cefuroxime is protective against Gram-positive and Gram-negative infections *in vivo* with mean ED<sub>50</sub> values ranging from 2 to 35 and 1 to 55 mg/kg, in mice and rats, respectively.<sup>4</sup> Formulations containing cefuroxime have been used to treat urinary tract infections.

### References

1. O'Callaghan, C.H., Sykes, R.B., Griffiths, A., *et al.* *Antimicrob. Agents Chemother.* **9(3)**, 511-519 (1976).
2. Curtis, N.A.C., Hughes, J.M., and Ross, G.W. *Antimicrob. Agents Chemother.* **9(2)**, 208-213 (1976).
3. Richmond, M.H. and Wotton, S. *Antimicrob. Agents Chemother.* **10(2)**, 219-222 (1976).
4. Ryan, D.M., O'Callaghan, C.H., and Muggleton, P.W. *Antimicrob. Agents Chemother.* **9(3)**, 520-525 (1976).

#### 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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