

# PRODUCT INFORMATION

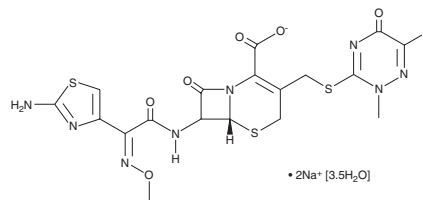


## Ceftriaxone (sodium salt hydrate)

Item No. 18866

**CAS Registry No.:** 104376-79-6  
**Formal Name:** (6R,7R)-7-[[[(2Z)-2-(2-amino-4-thiazolyl)-2-(methoxyimino)acetyl]amino]-8-oxo-3-[[[(1,2,5,6-tetrahydro-2-methyl-5,6-dioxo-1,2,4-triazin-3-yl)thio]methyl]-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, disodium salt, hemiheptahydrate

**Synonyms:** Ro 13-9904, Rosihlitzone  
**MF:** C<sub>18</sub>H<sub>16</sub>N<sub>8</sub>O<sub>7</sub>S<sub>3</sub> • 2Na [3.5H<sub>2</sub>O]  
**FW:** 661.6  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 241 nm  
**Supplied as:** A crystalline 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

Ceftriaxone (sodium salt hydrate) is supplied as a crystalline solid. Ceftriaxone (sodium salt hydrate) is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of ceftriaxone (sodium salt hydrate) be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ceftriaxone (sodium salt hydrate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Ceftriaxone (sodium salt hydrate) is a third-generation, broad-spectrum cephalosporin antibiotic that disrupts the synthesis of the peptidoglycan layer of bacterial cell walls.<sup>1-3</sup> It has been shown to increase excitatory amino acid transporter-2 pump expression in the central nervous system and to reduce glutamatergic toxicity in both *in vitro* and *in vivo* models.<sup>4</sup>

### References

1. Bush, K. β-Lactamase inhibitors from laboratory to clinic. *Clin. Microbiol. Rev.* **1(1)**, 109-123 (1988).
2. Kalman, D. and Barriere, S.L. Review of the pharmacology, pharmacokinetics, and clinical use of cephalosporins. *Texas Heart Institute Journal* **17(3)**, 203-215 (1990).
3. Neu, H.C. The *in vitro* activity, human pharmacology, and clinical effectiveness of new β-lactam antibiotics. *Annu. Rev. Pharmacol. Toxicol.* **22**, 599-642 (1982).
4. Lee, S.-G., Su, Z.-Z., Emdad, L., *et al.* Mechanism of ceftriaxone induction of excitatory amino acid transporter-2 expression and glutamate uptake in primary human astrocytes. *J. Biol. Chem.* **283(19)**, 13116-13123 (2008).

#### 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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