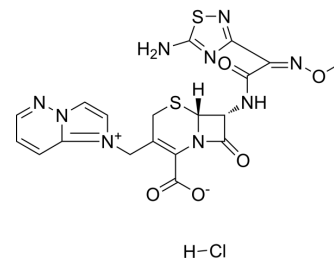


## Cefozopran hydrochloride

|                           |                                                                                                                                  |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Cat. No.:</b>          | HY-B0771A                                                                                                                        |
| <b>CAS No.:</b>           | 113981-44-5                                                                                                                      |
| <b>Molecular Formula:</b> | C <sub>19</sub> H <sub>18</sub> ClN <sub>9</sub> O <sub>5</sub> S <sub>2</sub>                                                   |
| <b>Molecular Weight:</b>  | 551.99                                                                                                                           |
| <b>Target:</b>            | Bacterial; Antibiotic                                                                                                            |
| <b>Pathway:</b>           | Anti-infection                                                                                                                   |
| <b>Storage:</b>           | -20°C, sealed storage, away from moisture<br>* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |



### SOLVENT & SOLUBILITY

| <b>In Vitro</b>                                                               | DMSO : 100 mg/mL (181.16 mM; Need ultrasonic)                                                                                                                                                                                                                                                                                                                                                                                                        |                          |           |           |           |            |       |           |           |            |      |           |           |           |       |           |           |           |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------|-----------|-----------|------------|-------|-----------|-----------|------------|------|-----------|-----------|-----------|-------|-----------|-----------|-----------|
|                                                                               | H <sub>2</sub> O : ≥ 52 mg/mL (94.20 mM)<br>* "≥" means soluble, but saturation unknown.                                                                                                                                                                                                                                                                                                                                                             |                          |           |           |           |            |       |           |           |            |      |           |           |           |       |           |           |           |
| <b>Preparing Stock Solutions</b>                                              | <table border="1"> <thead> <tr> <th rowspan="2">Solvent<br/>Concentration</th> <th rowspan="2">Mass</th> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td>1 mM</td> <td>1.8116 mL</td> <td>9.0581 mL</td> <td>18.1163 mL</td> </tr> <tr> <td>5 mM</td> <td>0.3623 mL</td> <td>1.8116 mL</td> <td>3.6233 mL</td> </tr> <tr> <td>10 mM</td> <td>0.1812 mL</td> <td>0.9058 mL</td> <td>1.8116 mL</td> </tr> </tbody> </table> | Solvent<br>Concentration | Mass      | 1 mg      | 5 mg      | 10 mg      | 1 mM  | 1.8116 mL | 9.0581 mL | 18.1163 mL | 5 mM | 0.3623 mL | 1.8116 mL | 3.6233 mL | 10 mM | 0.1812 mL | 0.9058 mL | 1.8116 mL |
|                                                                               | Solvent<br>Concentration                                                                                                                                                                                                                                                                                                                                                                                                                             |                          |           | Mass      | 1 mg      | 5 mg       | 10 mg |           |           |            |      |           |           |           |       |           |           |           |
|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1 mM                     | 1.8116 mL |           | 9.0581 mL | 18.1163 mL |       |           |           |            |      |           |           |           |       |           |           |           |
|                                                                               | 5 mM                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.3623 mL                | 1.8116 mL | 3.6233 mL |           |            |       |           |           |            |      |           |           |           |       |           |           |           |
| 10 mM                                                                         | 0.1812 mL                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.9058 mL                | 1.8116 mL |           |           |            |       |           |           |            |      |           |           |           |       |           |           |           |
| Please refer to the solubility information to select the appropriate solvent. |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |           |           |           |            |       |           |           |            |      |           |           |           |       |           |           |           |
| <b>In Vivo</b>                                                                | 1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline<br>Solubility: ≥ 2.5 mg/mL (4.53 mM); Clear solution                                                                                                                                                                                                                                                                                                             |                          |           |           |           |            |       |           |           |            |      |           |           |           |       |           |           |           |
|                                                                               | 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: ≥ 2.5 mg/mL (4.53 mM); Clear solution                                                                                                                                                                                                                                                                                                                        |                          |           |           |           |            |       |           |           |            |      |           |           |           |       |           |           |           |

### BIOLOGICAL ACTIVITY

|                                     |                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>                  | Cefozopran (SCE-2787) hydrochloride is a semi-synthetic, parenteral, fourth-generation cephalosporin. Cefozopran hydrochloride, an antibiotic, has a broad spectrum of antibacterial activity, inhibiting most of the gram-negative and gram-positive organisms <sup>[1][2]</sup> .                                                                               |
| <b>IC<sub>50</sub> &amp; Target</b> | β-lactam                                                                                                                                                                                                                                                                                                                                                          |
| <b>In Vitro</b>                     | Cefozopran (SCE-2787) is a fourth-generation cephalosporin that has good activity against gram-positive organisms including methicillin-susceptible staphylococci, enterococci, and viridans group streptococci; and against gram-negative organisms including hemophilus influenza. Moreover, cefozopran has comparatively good activity against enterococci and |

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*P. aeruginosa*, which are refractory to other cephalosporins<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

Cefozopran (SCE-2787) (5-80 mg/kg; s.c.; twice a day for 5 days; four-week-old ICR male mice) is effective against acute respiratory tract infections caused by *Kiebsiella pneumonia* DT-S. In the model of chronic respiratory tract infection caused by *K. pneumoniae* 27, Cefozopran (20-80 mg/kg; s.c.; twice a day for 7 days; five-week-old CBA/J female mice) is as effective as Ceftazidime<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

[1]. Sato T, et al. A prospective, randomized study comparing cefozopran with piperacillin-tazobactam plus ceftazidime as empirical therapy for febrile neutropenia in children with hematological disorders. *Pediatr Blood Cancer*. 2008;51(6):774-777.

[2]. Iizawa Y, et al. Therapeutic effect of cefozopran (SCE-2787), a new parenteral cephalosporin, against experimental infections in mice. *Antimicrob Agents Chemother*. 1993;37(1):100-105.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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