



## Product Information

### Ticarcillin disodium salt

Product Number **T 5639**

Storage Temperature 2-8 °C

#### Product Description

Molecular Formula:  $C_{15}H_{14}N_2O_6S_2Na_2$

Molecular Weight: 428.4

CAS Number: 4697-14-7

Synonyms: [2S-(2 $\alpha$ ,5 $\alpha$ ,6 $\beta$ (S\*))]-6-[(carboxy-3-thienylacetyl)amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid disodium; N-(2-carboxy-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]hept-6-yl)-3-thiophenemalonamic acid disodium; 6-[D(-)- $\alpha$ -carboxy-3-thienylacetamido]penicillinanic acid disodium<sup>1</sup>

Ticarcillin is a broad spectrum, semi-synthetic carboxypenicillin antibiotic that is related to penicillin. It has a greater spectrum of activity compared to ampicillin and a particular affinity for Gram-negative organisms such as *Pseudomonas aeruginosa*.<sup>1</sup> When ticarcillin is used in conjunction with the  $\beta$ -lactamase inhibitor clavulanic acid, the spectrum of activity is enhanced.<sup>1,2,3</sup>

A report on the susceptibility of various *Bartonella* isolates to different antibiotics, including ticarcillin, has been described.<sup>4</sup> The susceptibility of many *Acinetobacter* genospecies strains to several antibiotics has been probed, including the use of ticarcillin (16.0  $\mu$ g/ml) together with clavulanate.<sup>5</sup> A membrane filtration test for the presumptive differentiation of several *Candida* species that utilizes ticarcillin in conjunction with clavulanic acid has been published.<sup>6</sup>

A reversed-phase LC assay for ticarcillin in plasma and urine has been reported.<sup>7</sup> A method for the simultaneous determination of ticarcillin and clavulanate in rabbit serum and tissue cage fluid that combines HPLC with a wavelength switch technique has been published.<sup>8</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in water (50 mg/ml), yielding a clear, colorless to faint yellow solution. Aqueous solutions of this product have a pH of 6-8. Acidic solutions of this product are less stable than aqueous solutions.<sup>1</sup>

#### References

1. The Merck Index, 12th ed., Entry #9567.
2. Martindale The Extra Pharmacopoeia, 31st ed., Reynolds, J. E. F., ed., Royal Pharmaceutical Society (London, UK: 1996), pp. 829-830.
3. Lister, P. D.,  $\beta$ -lactamase inhibitor combinations with extended-spectrum penicillins: factors influencing antibacterial activity against enterobacteriaceae and *Pseudomonas aeruginosa*. *Pharmacotherapy*, **20(9 Pt 2)**, 213S-218S (2000).
4. Maurin, M., et al., MICs of 28 antibiotic compounds for 14 *Bartonella* (formerly *Rochalimaea*) isolates. *Antimicrob. Agents Chemother.*, **39(11)**, 2387-2391 (1995).
5. Visalli, M. A., et al., Activities of  $\beta$ -lactams against *Acinetobacter* genospecies as determined by agar dilution and E-test MIC methods. *Antimicrob. Agents Chemother.*, **41(4)**, 767-770 (1997).
6. Bauters, T. G., et al., Membrane filtration test for rapid presumptive differentiation of four *Candida* species. *J. Clin. Microbiol.*, **37(5)**, 1498-1502 (1999).

7. La Follette, G., et al., Determination of ticarcillin in human plasma and in urine by reversed-phase LC. J. Pharm. Biomed. Anal., **13(2)**, 159-164 (1995).
8. Li, C., et al., Simultaneous determination of ticarcillin and clavulanate in rabbit serum and tissue cage fluid by liquid chromatography. J. Chromatogr. B Analyt. Technol. Biomed. Life Sci., **794(2)**, 227-236 (2003).

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