

## Product Information

### Carbenicillin Ready Made Solution

Catalog Number **C1613**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

CAS RN 4800-94-6 (disodium salt)  
Synonyms:  $\alpha$ -carboxybenzylpenicillin,  
[2S-(2 $\alpha$ 5 $\alpha$ ,6 $\beta$ )]-6-[carboxyphenylacetyl-amino]-  
3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-  
2-carboxylic acid

#### Product Description

Molecular Formula:  $\text{C}_{17}\text{H}_{16}\text{N}_2\text{O}_6\text{S}$  (free acid)  
Molecular Weight: 378.40

Carbenicillin, an ampicillin analog, is a commonly used selective antibiotic that binds and inhibits a number of enzymes involved in the synthesis of the bacterial cell wall. It is active against most isolates of *Pseudomonas aerogenosa* and certain indole-positive *Proteus* strains resistant to ampicillin. The gene conferring resistance to ampicillin and its analogs, *amp<sup>r</sup>*, encodes for the enzyme  $\beta$ -lactamase.  $\beta$ -Lactamase is secreted into the bacterial periplasmic space or into the medium where it hydrolyzes the antibiotics.

Carbenicillin is found to be less sensitive than ampicillin to the destructive activity of  $\beta$ -lactamase. In addition, it has a superior stability at low pH. Experiments have shown that the use of carbenicillin in place of ampicillin helps prevent overgrowth of satellite colonies.

Carbenicillin Ready Made Solution is a 0.2  $\mu\text{m}$  filtered solution of 100 mg/ml (as carbenicillin, disodium salt) in ethanol/water.

Carbenicillin should be used at a concentration of 50–100  $\mu\text{g/ml}$ .

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

The product ships on wet ice and storage at  $-20\text{ }^{\circ}\text{C}$  is recommended.

#### References

1. Wright, A.J., Mayo Clin. Proc., **74**, 290-307 (1999).
2. Ausubel, F.M., et al., Current Protocols in Molecular Biology, John Wiley & Sons (Hoboken, NJ) 1.8.9.
3. Rolinson, G.N., J. Antimicrob. Chemother., **41**, 589-603 (1998).

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