

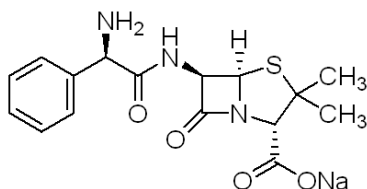
## Product Information

### Ampicillin Ready Made Solution

Catalog Number **A5354**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

CAS RN 69-52-3  
Synonym: D-(–)- $\alpha$ -aminobenzylpenicillin

#### Product Description



Molecular Formula:  $\text{C}_{16}\text{H}_{18}\text{N}_3\text{NaO}_4\text{S}$   
Molecular Weight: 371.39

Ampicillin is a  $\beta$ -lactam antibiotic with an amino group side chain attached to the penicillin structure. Ampicillin, which is a semi-synthetic derivative of penicillin, inhibits cell wall synthesis (peptidoglycan crosslinking) by inactivating transpeptidases on the inner surface of the bacterial cell membrane in Gram-negative and Gram-positive bacteria.<sup>2,3</sup> Cleavage of the  $\beta$ -lactam ring of ampicillin by  $\beta$ -lactamase results in bacterial resistance to this antibiotic.<sup>2,4</sup>

Ampicillin Ready Made Solution is a  $0.2\text{ }\mu\text{m}$  filtered solution of 100 mg/ml of ampicillin, which remains liquid at its storage temperature ( $-20\text{ }^{\circ}\text{C}$ ).

#### 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 dry ice and storage at  $-20\text{ }^{\circ}\text{C}$  is recommended.

#### Procedure

The product can be added to an agar or culture medium, which has been autoclaved and cooled to  $45\text{--}50\text{ }^{\circ}\text{C}$ . Culture plates with ampicillin can be stored at  $2\text{--}8\text{ }^{\circ}\text{C}$  for up to two weeks.

The recommended concentration for antibacterial use in culture media is  $\sim 100\text{ }\mu\text{g/ml}$  (a 1000-fold dilution of the product).

The recommended concentration for use in ampicillin-resistance studies is  $20\text{--}125\text{ }\mu\text{g/ml}$ .<sup>4</sup>

#### References

1. Wright, A.J., The penicillins. *Mayo Clin. Proc.*, **74**, 290-307 (1999).
2. Kirby, W.M., and Bulger, R.J., The new penicillins and cephalosporins. *Annu. Rev. Med.*, **15**, 393-412 (1964).
3. Rolinson, G.N., Forty years of beta-lactam research. *J. Antimicrob. Chemother.*, **41**, 589-603 (1998).
4. Perlman, D., et al., Use of antibiotics in cell culture. *Meth. Enzymol.*, **58**, 110-116 (1979).

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