

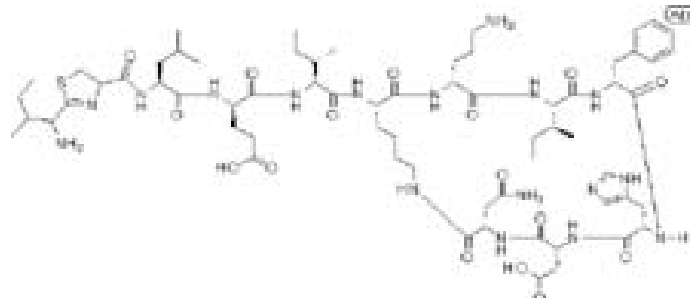


## Product Information Sheet

**B132**

### Bacitracin Zinc

Synonym: N/A  
CAS: 1405-89-6  
Formula:  $C_{66}H_{101}N_{17}O_{16}SZn$   
Molecular Wt: 1486.07



#### Properties

Form: Powder  
Appearance: Cream to Tan Powder  
Application: Plant Tissue Culture Antibiotic  
Solubility: Soluble in Water: 5.1 mg/mL (28° C), methanol at 6.55 mg/mL, ethanol at 2.0 mg/mL, and isopropanol at 0.16 mg/mL per the Merck Index. *PhytoTechnology Labs* tests solubility at 1.0 mg/mL in DMSO.  
Storage Temp: 2 to 6 °C  
Storage Temp of Stock Solution: The preparation of stock solutions is not recommended. Bacitracin has been observed to lose potency in solution (Merck Index). For optimal potency solutions should be prepared fresh.  
Other Notes: Minimum Potency: 65 IU/mg (see Certificate of Analysis for lot specific activity)

#### Application Notes

Bacitracin interferes with cell wall biosynthesis in Gram-positive bacteria by inhibiting the dephosphorylation of lipid pyrophosphate. It is also active in some Gram-negative organisms although most are resistant.<sup>2</sup>

Bacitracin Zn is a mixture of bacitracin A, B1, B2, B3, and Zn. It has been reported that the bacteriostatic activity of bacitracin increases by twofold when Zn was added at  $1 \times 10^{-5}$  M and 10-fold at  $1 \times 10^{-4}$  M. Additionally, the presence of Zn ion helps enhance thermal and storage stability of the bacitracin.<sup>3</sup>

It has been reported that bacitracin's minimum inhibitory concentration for *Clostridium perfringens* is 0.93 µg/mL.<sup>4</sup>

Please Note: It is the sole responsibility of the purchaser to determine the appropriateness of this product for the specific plants that are being cultured and applications that are being used.

#### References

1. Merck 13, 938
2. Martindale: *The Complete Drug Reference*, 35th ed., Paul S. Blake, Ed. (Royal Pharmaceutical Society, 2007), p. 187.
3. Smith, J.L., and E.D. Weinberg. 1962. Mechanisms of Antibacterial Action of Bacitracin. *J. Gen. Microbiol.* 28:559-569.
4. Richez P., Richard A., Cornez B. and Vancaeynest D. "Susceptibility, resistance and antibiotic profile of bacitracin against *clostridium perfringens* strains isolated during clinical outbreaks of epizootic rabbit enteropathy." *9th World Rabbit Congress - June 10-13, 2008 – Verona, Italy.*

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