

## Product Information

### Lysostaphin from *Staphylococcus staphylolyticus*

Catalog Number **L4402**  
Storage Temperature  $-20\text{ }^{\circ}\text{C}$

E.C. 3.4.24.75  
CAS RN 9011-93-2  
Synonym: Glycyl-glycine Endopeptidase

#### Product Description

Lysostaphin is a zinc metalloenzyme isolated from a bacterial culture of *Staphylococcus staphylolyticus*. It has specific lytic action against *Staphylococcus* species, including *S. aureus*.<sup>1,2</sup> Lysostaphin has hexosaminidase, amidase, and endopeptidase activities. It cleaves polyglycine crosslinks in the cellular wall of *Staphylococcus* species, which leads to cell lysis.<sup>3,4</sup>

Purified extracellular lysostaphin from *S. staphylolyticus* is a single polypeptide chain with a molecular mass of 26,926 Da, containing 246 amino acid residues.<sup>5</sup> Lysostaphin has an isoelectric point of 9.5 and a pH optimum of 7.5.<sup>6</sup>

This product has been affinity purified. It is a lyophilized powder containing 40–60% protein, with the balance primarily as potassium phosphate buffer salts and NaCl.

Specific Activity:  $\geq 2,000$  units/mg protein

Unit Definition: One unit will reduce the turbidity ( $A_{620}$ ) of a suspension of *S. aureus* cells from 0.250 to 0.125 in 10 minutes at pH 7.5 at  $37\text{ }^{\circ}\text{C}$  in a 6.0 mL reaction mixture.

Purity:  $\geq 97\%$  (SDS-PAGE)

#### Precautions and Disclaimer

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

#### Preparation Instructions

The product is soluble in water (10 mg/mL), yielding a clear to slightly hazy solution. We recommended that fresh solutions be prepared, as the product loses activity in solution. We do not specifically recommend the freezing of lysostaphin solutions in aliquots. One published reference cites storage of 200 units/mL stock solutions of lysostaphin in a buffer of 0.05 M Tris-HCl and 0.145 M NaCl at pH 7.4.<sup>7</sup> A second reference indicates storage of 2 mg/mL stock solutions in 20 mM sodium acetate buffer, pH 4.5, in frozen aliquots.<sup>8</sup> However, we have not tested either situation ourselves.

#### Storage/Stability

Store the product at  $-20\text{ }^{\circ}\text{C}$ . When stored properly and unopened at  $-20\text{ }^{\circ}\text{C}$ , the enzyme has a recommended retest date of 3 years.

#### References

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GCY,EM,RBG,GY,TA,MAM,PHC 06/16-1