

Product Information

Lysostaphin from *Staphylococcus staphylolyticus*

Lyophilized powder, protein 50-70% by Biuret, ≥500 units/mg protein

L7386

Product Description

CAS Registry Number: 9011-93-2

Enzyme Commission (EC) Number: 3.4.24.75

Synonym: Glycyl-glycine Endopeptidase

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

Purified extracellular lysostaphin from *Staphylococcus staphylolyticus* is a single polypeptide chain with a molecular mass of 26,926 Da, containing 246 amino acid residues.⁵ Lysostaphin has an isoelectric point of 9.5 and a pH optimum of 7.5.⁶

Several theses⁷⁻⁹ and dissertations¹⁰⁻¹⁸ have cited use of product L7386 in their protocols.

Product

The product is a lyophilized powder containing 50-70% protein, with the balance primarily as NaCl.

Specific Activity: ≥500 units/mg protein

Unit Definition: One unit will reduce the turbidity (A₆₂₀) of a suspension of *S. aureus* cells from 0.250 to 0.125 in 10 minutes at pH 7.5, at 37 °C in a 6.0 mL reaction mixture.

Precautions and Disclaimer

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). 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. Several publications have suggested storage of lysostaphin solutions under frozen conditions, although we have not tested any of these situations:

- One reference cites storage of 200 units/mL stock solutions in a buffer of 0.05 M Tris-HCl and 0.145 M NaCl at pH 7.4, at -20 °C.¹⁹
- Another reference indicates storage of 2 mg/mL stock solutions in 20 mM sodium acetate buffer, pH 4.5, in frozen aliquots.²⁰
- An additional reference mentions storage of 10 mg/mL stock solutions in acetate buffer (pH 4.6), in 25 µL aliquots, at -80 °C for up to six months.²¹

Storage/Stability

Store the product at -20 °C. When stored properly and unopened at -20 °C, the enzyme has a recommended retest date of 3 years.

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