



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

Mutanolysin from *Streptomyces globisporus* ATCC 21553

Product Number **M9901**
Storage Temperature -20 °C

Product Description

CAS Number: 55466-22-3
Molecular weight: 23 kDa^{1,2}

Mutanolysin (N-Acetyl Muramidase)³ is a muralytic enzyme that cleaves the N-acetylmuramyl- β (1-4)-N-acetylglucosamine linkage of the bacterial cell wall polymer peptidoglycan-polysaccharide.⁴ Its carboxy terminal moieties are involved in the recognition and binding of unique cell wall polymers. Mutanolysin lyses *Listeria* and other gram positive bacteria such as *Lactobacillus* and *Lactococcus*.⁵

Mutanolysin provides gentle cell lysis for the isolation of easily degradable biomolecules and RNA from bacteria. It has been used in the formation of spheroplasts for isolation of DNA.⁶

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

Mutanolysin can be dissolved in water at 1 mg/ml to give a clear, colorless to slightly yellow solution. One vial of mutanolysin can be dissolved to a concentration of 5,000 units/ml in 0.1 M potassium phosphate buffer pH 6.2. If only a portion of a vial of mutanolysin is to be used immediately, the remaining reconstituted material should be stored in frozen aliquots for future use.

References

1. Yokogawa, K., et al., Agric. Biol. Chem., **39**, 1533-1545 (1975).
2. Lammler, C., and Frede, C., Mutanolysin-induced Lysis of *Actinomyces Pyogenes* Determined by Aggregometry. Zentralbl. Bakteriologie. Mikrobiol. Hyg. [A], **269(4)**, 447-453 (1988).
3. Calandra, G. B., and Cole, R. M., Lysis and Protoplast Formation of Group B *Streptococci* by Mutanolysin. Infect. Immun., **28(3)**, 1033-1037 (1980).
4. Lichtman, S.N., et al., Degradation of Endogenous Bacterial Cell Wall Polymers by the Muralytic Enzyme Mutanolysin Prevents Hepatobiliary Injury in Genetically Susceptible Rats with Experimental Intestinal Bacterial Overgrowth. J. Clin. Invest., **90(4)**, 1313-1322 (1992).
5. Fliss, I., et al., A Rapid and Efficient Method of Lysis of *Listeria* and Other Gram-positive Bacteria Using Mutanolysin. Biotechniques, **11(4)**, 453-457 (1991).
6. Assaf, N. A., and Dick, W. A., Spheroplast Formation and Plasmid Isolation from *Rhodococcus* sp. Biotechniques, **15(6)**, 1010-1015 (1993).

GCY/RXR 9/07

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.