



Lysozyme

Cat. No.	size
E4320-01	1 ml
E4320-02	5 x 1 ml

Synonym:

Muramidase

Origin:

From chicken egg white.

Concentration:

10 mg/ml, 228 U/μl

Storage Conditions:

Store at -20°C.

References:

1. Schutte, H., et al., *Biotech. Applied Biochem.*, 12, 599-620 (1990).
2. Vazquez, Laslop, N., et al., *J. Bact.*, 183, 2399- 2404 (2001).
3. Ausubel, F.A., Brent, R., Kingston, R.E., Moore, D.D., Seidman, J.G., Smith, J.A. & Struhl, K. (eds.) 2001. *Current Protocols in Molecular Biology*. John Wiley & Sons, New York.
4. Sambrook, J. & Russell, D.W. (2001) *Molecular Cloning: A Laboratory Manual*, 3rd Edition. pp. A1.8+4.51. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.

Description:

Lysozyme, a 15-kDa (129 aa) single chain protein which acts by catalyzing the hydrolysis of 1,4-beta-linkages between *N*-acetylmuramic acid and *N*-acetyl-D-glucosamine residues in peptidoglycans (a component of the proteoglycan-cell wall of certain microorganisms) and between the *N*-acetyl-D-glucosamine residues in chitodextrins.

The pH optimum is at 9.2, although lysozyme is active over a broad pH range (6.0-9.2).

Lysozyme is inhibited by surfactants like sodium dodecyl sulfate, sodium dodecanate, and dodecyl alcohol also by fatty acids, imidazole and indol-derivatives.

Applications:

- Lysozyme is widely used for lysis of gram-positive and gram-negative bacteria. Gram-negative bacteria are less susceptible due to the presence of an outer membrane and a lower proportion of peptidoglycan. It is recommended to facilitate a lysis in the presence of EDTA (1, 2).
- The enzyme is used to lyse *E. coli* for the isolation of plasmid-DNA (3).
- Lysis of bacteria for the preparation of bacterial RNA (4).

Unit Definition:

One unit will produce a change in A450 of 0.001 per minute at pH 6.24 at 25°C, using a suspension of *Micrococcus lysodeikticus* as substrate, in a 2.6 ml reaction mixture (1 cm light path).

Storage Buffer:

50% glycerol, 50 mM Tris pH 8.0, 6 mM calcium acetate and 0.1% Tergitol™ TMN.

This product is developed, designed and sold exclusively for research purposes and in vitro use only.

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