

# Lyophilized Lysozyme Protocol



*For research use only*

## Catalogue Number

LY008 (8 mg), LY050 (50 mg), LY110 (110 mg), LY250 (250 mg), LY610 (610 mg) , LY1220 (1220 mg)

## Introduction

Lysozyme is most often used for lysing bacterial cells by hydrolyzing the peptidoglycan present in the cell walls. Lysozyme alternatively can improve efficiency of protein or DNA/RNA extraction. Lysozyme catalyzes the hydrolysis of 1,4-beta-linkages between N-acetylmuramic acid and N-acetyl-D-glucosamine residues in peptidoglycans and between the N-acetyl-D-glucosamine residues in chitodextrins. Gram (+) positive bacteria cell walls have a substantially higher proportion of peptidoglycan so are more susceptible to lysozyme hydrolysis. Lysozyme is purified from chicken egg white and supplied as a lyophilized powder.

## Specifications

- Lyophilized Lysozyme powder
- Storage: -20°C for extended periods. Lysozyme solutions (pH 4-5) will remain active for 1 month when stored at 2-8°C.
- Shipped at room temperature
- Source: Lysozyme is purified from chicken egg whites

## Preparation

1. Grow a culture of bacteria.
2. Transfer bacterial cells (up to  $1 \times 10^9$ ) to a 1.5 ml microcentrifuge tube.
3. Centrifuge for 1 minute at 14-16,000 x g then discard the supernatant.
4. Resuspend the bacterial pellet in 350  $\mu$ l of STET buffer (10 mM Tris-HCl, pH 8.0, 0.1 M NaCl, 1 mM EDTA, and 5% Triton X-100).
5. Add 25  $\mu$ l of freshly prepared lysozyme solution (10 mg/ml in 10 mM Tris-HCl, pH 8.0), Mix thoroughly by vortexing.
6. Incubate at 37°C for 30 minutes. During incubation, invert the tube occasionally.
7. After incubation, place the tube containing the lysis mixture in a boiling water bath for 40 seconds.
8. Centrifuge the sample mixture at 16,000  $\times$ g to remove cell debris.