

# Lyophilized Lysozyme Protocol

*For research use only*

## Catalogue Number

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

**Geneaid**



## 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. Prepare Lysozyme Buffer (20 mM Tris-HCl, pH 8.0 ; 2 mM EDTA; 1% Triton X-100).
5. Transfer 1 ml of Lysozyme Buffer and 10 mg of Lysozyme powder to a 1.5 ml microcentrifuge tube then vortex to completely dissolve the Lysozyme.
6. Transfer 200  $\mu$ l of Lysozyme Buffer containing Lysozyme to the bacterial pellet in the 1.5 ml microcentrifuge tube then re-suspend the pellet by vortex or pipette.
7. Incubate at 37°C for 30 minutes. During incubation, invert the tube occasionally.