

## Lysozyme Solution (10 mg/mL)

Cat. No.: L1520263 | Pack size: 5 mL | Storage: -20 °C; avoid repeated freeze/thaw

### Overview

Lysozyme, also known as muramidase, is an alkaline enzyme that hydrolyzes mucopolysaccharides in bacterial cell walls by breaking  $\beta$ -1,4 glycosidic bonds between N-acetylmuramic acid and N-acetylglucosamine. This results in cell-wall rupture, leakage of intracellular contents, and bacterial lysis.

Lysozyme Solution (10 mg/mL) contains lysozyme, TRIS, and related components at approximately pH 8.0. It is primarily used to lyse bacterial cell walls before plasmid DNA extraction workflows.

### Key Features

- Ready-to-use 10 mg/mL lysozyme solution suitable for molecular biology workflows
- Supports bacterial cell-wall disruption for downstream plasmid DNA extraction
- Maintains activity within a defined temperature range and is relatively insensitive to organic solvents
- Stable enzymatic activity for routine lysis applications
- Broad antibacterial and preservative properties for sample processing workflows

### Contents & Storage

Cat. No.	Component	Size	Storage
L1520263	Lysozyme Solution (10 mg/mL)	5 mL	-20 °C; avoid freeze/thaw

### Materials Required But Not Supplied

Item	Recommended Specification	Purpose
Bacterial suspension	Prepared according to the extraction workflow	Cell lysis substrate
Plasmid DNA extraction reagents	User-validated system	Downstream extraction
Pipettes and tips	Clean, nuclease-free	Liquid handling

Item	Recommended Specification	Purpose
Ice bath	Recommended during setup	Activity preservation

## Preparation Before Use

1. Thaw on ice or at 4 °C. Mix gently before use. For repeated small-volume use, aliquot after first thaw to avoid repeated freeze/thaw cycles.

## Protocol

### Operating Procedure (Reference Only)

Follow the specific requirements of the selected plasmid DNA extraction workflow. As a general starting point, add lysozyme solution at a bacterial suspension:lysozyme solution volume ratio of 6:1 to 10:1, then continue with the validated lysis protocol.

## Storage & Handling

Store at -20 °C for long-term use. Upon receipt, aliquot if necessary. Avoid repeated freeze/thaw cycles and use promptly after opening.

## Safety & Precautions

1. Wear lab coat and disposable gloves during operation.
2. Use promptly after opening to prevent activity loss that could affect downstream results.
3. For research use only; not intended for clinical diagnosis or other non-research uses.

## Quality Control

QC Item	Method	Acceptable Range
Appearance	Visual inspection	No leakage, abnormal precipitation, or container damage on receipt
Use performance	Application-specific test	Meets laboratory acceptance criteria under validated conditions
Storage condition	Label and storage check	Stored according to label and this instruction document

## Troubleshooting

Issue	Possible Causes	Corrective Action
Incomplete bacterial lysis	Low lysozyme ratio, old reagent, or resistant strain	Increase lysozyme within validated range, confirm storage history, or extend incubation according to protocol
Low plasmid yield	Insufficient lysis or downstream extraction issue	Verify lysis efficiency and extraction reagent performance
Reduced activity after storage	Repeated freeze/thaw cycles	Use aliquots and avoid repeated thawing

## Recommended Applications

Bacterial cell-wall lysis · plasmid DNA extraction support · molecular biology sample preparation

## Contact & Global Offices

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## Limitations & Disclaimer

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