

Protein Stabilizing Cocktail

89806

1759.0

Number	Description
89806	Protein Stabilizing Cocktail (4X), 10 ml

Storage: Upon receipt store at 4°C. Product is shipped at ambient temperature.

Introduction

The Protein Stabilizing Cocktail is a versatile stabilizing solution that increases the shelf life of purified or partially purified proteins during routine storage. The proprietary formulation of low molecular weight and naturally occurring molecules helps protect proteins from environmental stresses that can otherwise lead to enzyme inactivation, aggregation and freeze/thaw damage.

The Protein Stabilizing Cocktail is provided as an easily pipettable, buffered 4X concentrate. After dilution in Protein Stabilizing Cocktail, the protein can be stored for long periods without losing significant activity. Although the degree of stabilization is protein-specific, this cocktail significantly stabilizes most proteins compared with conventional buffer alone. The Protein Stabilizing Cocktail is non-toxic and does not destabilize biomolecules; however, if desired, all cocktail components can be removed by dialysis or desalting before use in downstream assays.

Procedure for Diluting Protein Stabilizing Cocktail into Protein Solution

1. Dilute the 4X Protein Stabilizing Cocktail four-fold in protein solution. For example, add one part Protein Stabilizing Cocktail to three parts protein solution. Diluting the 4X Protein Stabilizing Cocktail two-fold may provide greater stabilization for some proteins.
2. Store the stabilized protein using typical conditions for the specific protein of interest (e.g., 4°C or -20°C).
3. Options:
 - Protein Stabilizing Cocktail does not contain reducing agents. If the protein is known to contain essential sulfhydryl (-SH) groups, add a reducing agent, such as dithiothreitol (DTT), to a final concentration of 1-5 mM.
 - To help avoid metal-catalyzed oxidation of -SH groups, add a metal chelator, such as EDTA, to a final concentration of 1-5 mM.
 - To help stabilize dilute protein solutions, add a carrier protein, such as BSA, at a final concentration of 0.1-0.25 mg/ml.

Additional Information

A. Please visit the web site for additional information including the following:

- Tech Tip protocol: Protein Stability and Storage
- Tech Tip: An Overview of Dialysis
- Tech Tip: Extinction Coefficients Guide

Related Thermo Scientific Products

89890	Zeba™ Desalt Spin Columns, 2 ml, 25 columns, for 200-700 µl samples
89892	Zeba™ Desalt Spin Columns, 5 ml, 25 columns, for 500-2,000 µl samples
89894	Zeba™ Desalt Spin Columns, 10 ml, 25 columns, for 700-4,000 µl samples
66335	Slide-A-Lyzer® Dialysis Cassettes (3.5K MWCO), 10 units, 10 buoys, 10 syringes
69558	Slide-A-Lyzer® MINI Units (3.5K MWCO), 10 units plus 25-unit float buoy
20291	No-Weigh™ Dithiothreitol (DTT), 48 × 7.7 mg microtubes
17892	EDTA (ethylenediaminetetraacetic acid, disodium dihydrate), 500 g
23210	Bovine Serum Albumin (BSA) Standard, 2 mg/ml, 50 ml

References

- Anderson, M.M., *et al.* (2000). Stabilizing effect of chemical additives against oxidation of lactate dehydrogenase. *Biotechnol. Appl. Biochem.* **32**:145-53.
- Carpenter, J.F. and Crowe, J.H. (1988). The mechanism of cryoprotection of proteins by solutes. *Cryobiology* **25**:244-55.
- Galinski, E.A. (1993). Compatible solutes of halophilic eubacteria: molecular principles, water-solute interaction, stress protection. *Experientia* **49**: 487-96.

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Current versions of product instructions are available at www.thermo.com/pierce. For a faxed copy, call 800-874-3723 or contact your local distributor.

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