TCEP (0.5M, pH 6.0, 7.0, and 8.0)

DESCRIPTION

Tris(2-carboxyethyl) phosphine hydrochloride (TCEP) Solution is an extraordinarily powerful, odorless, thiol-free reducing agent with broad application to protein and nucleic acid involving reduction of disulfide bonds. The pH value of the solution is designed at 6.0, 7.0 and 8.0 for multiple choices. This product is an effective and convenient replacement for β-mercaptoethanol (β-ME) or DTT in protein analysis.

KEY FEATURES

- **Highly Efficient**: 5 to 50mM TCEP thoroughly reduces most peptide or protein disulfide bonds within a few minutes.
- **Stable and versatile**: reduces peptides and proteins over a broad range of pH, salt, detergent, and temperature conditions. It is resistant to air oxidation; nonvolatile and nonreactive toward other functional groups found in proteins.
- **Compatible**: removal of this reagent is not necessary for most applications (e.g. histidine-tagged protein purification, maleimide conjugations), because TCEP does not contain sulfhydryl groups.
- **Odorless:** it is order-free, unlike β-ME and DTT. This is better to keep healthy lab environment.

DIRECTIONS FOR USE

TCEP breaks disulfide bonds and can be used for a wide variety of protein applications including SDS-PAGE, mass spectrometry, labeling with cysteine specific tags, and modification of cysteine containing compounds. Its ability to prevent oxidation of protein samples makes it a useful buffer component because it helps to preserve enzymatic activity.

STORAGE

The product, as supplied, is stable for at least two years at 2-8ºC, and shipped ambient.

CONTENTS

The product is supplied as 0.5M solution with different unit size of 1.0, 10.0 and 50 mL at different pH value: 6.0, 7.0 and 8.0. The detail listed as below:

Catalog	Unit Size	pH
TBS5082-01-6.0	1mL	pH=6
TBS5082-01-7.0	1mL	pH=7
TBS5082-01-8.0	1mL	pH=8
TBS5082-10-6.0	10mL	pH=6
TBS5082-10-7.0	10mL	pH=7
TBS5082-10-8.0	10mL	pH=8
TBS5082-50-6.0	50mL	pH=6
TBS5082-50-7.0	50mL	pH=7
TBS5082-50-8.0	50mL	pH=8

Note: *The customized TCEP solution can be provided as the customer request.*

RELATED PRODUCTS

8M Urea (TBS5037)
4M Ammonium Sulfate Solution (TBS5038)
1M DTT (TBS5039)
1M MOPS (TBS5041)
1M Bicine Buffer (TBS5042)
1M Sodium Citrate Solution (TBS5043)
5% Bovine Serum Albumin in TBST Buffer (TBS5049)

REFERENCE

1. Burns, J.A. et al. Selective reduction of disulfides by tris(2-caroxyethyl) phosphine, J. Org. Chem.; 1991, 56: 2648-2650.
2. Getz, E. B., et al. A comparison between the sulfhydryl reductants tris (2-carboxyethlyl) phosphine, and dithiothreitol for use in protein biochemistry. Anal. Biochem.; 1999, 273: 73-80.

For research use only.