
Product Data Sheet

Product Name: TXN1 E.Coli
Cat. No.: GP24920
Batch No.: 1

Product Data

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|---------------------|--------------------------------------------------------------------------------------------------------|--------------------|-----------------------|
| Purity | >98% | Source | Escherichia Coli. |
| Physical Appearance | solid | Shipping Condition | Shipped at Room temp. |
| Synonyms | Thioredoxin-1; Trx-1; trxA; fipA; tsnC; b3781; JW5856. | | |
| Amino Acid Sequence | HMSDKIIHL TDDSFDTDVLKADGAIL VDFW AEWCGPCKMIAPILDEI GKLTVAKLNIDQNPQTAPKYGIRGIPTLLLFKNGEVAATKVGAL DANLA. | | |
| Solubility | It is recommended to reconstitute the lyophilized TRX in sterile 18MΩ-cm H ₂ O. | | |

Formulation Each mg of protein contains 20mM phosphate buffer pH 7.4.

Introduction

Thioredoxins are small disulphide-containing redox proteins (within the conserved Cys-Gly-Pro-Cys active site) that have been found in all the kingdoms of living organisms. Thioredoxin contains a single disulfide active site and serves as a general protein disulphide oxidoreductase. Thioredoxins are involved in the first unique step in DNA synthesis. It interacts with a broad range of proteins by a redox mechanism based on reversible oxidation of two cysteine thiol groups to a disulphide, accompanied by the transfer of two electrons and two protons. The net result is the covalent interconversion of a disulphide and a dithiol. Trx also provides control over a number of transcription factors affecting cell proliferation and death through a mechanism referred to as redox regulation. It has been suggested that thioredoxin may catalyze the formation of correct disulfides during protein folding because of its ability to act as an efficient oxidoreductant. This could be especially useful in refolding proteins expressed in E. coli. To this end, thioredoxin has been shown to act as a protein disulfide isomerase. Its Molecular Weight is 11.9kDa. and the pI is 4.67.

Biological Activity

TRX activity is assayed by measuring the change in absorbance at 650 nm at 25°C using

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Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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0.13?M bovine insulin containing 0.33mM DTT (pH 6.5).The specific activity was found to be 3IU/mg.

Stability

TRX although stable at 4°C for 3 weeks, should be stored desiccated below -18°C . Please prevent freeze thaw cycles.

Background

Recombinant Thioredoxin was purified from E. coli harboring its gene.

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