

## TXN1, His

**Description:** Recombinant Thioredoxin produced in E.Coli is a single, non-glycosylated polypeptide chain containing 119 amino acids (2-109 a.a.) and having a molecular mass of 12.9kDa. TRX contains an 11 amino acid His Tag N-terminus and is purified by proprietary chromatographic techniques.

**Catalog #:** PRPS-791

For research use only.

**Synonyms:** Thioredoxin-1, Trx-1, trxA, fipA, tsnC, b3781, JW5856.

**Source:** Escherichia Coli.

**Physical Appearance:** Sterile Filtered colorless solution.

**Amino Acid Sequence:** MHHHHHMGSGDKIIHLTDDSFDTDLKADGAILVDFWAEW  
CGPCKMIAPILDEIADEYQGKLTVAKLNIDQNPQTAPKYGIRGIPTLLLFKNGEVAATKV  
GALSKGQLKEFLDANLAGS.

**Purity:** Greater than 85.0% as determined by SDS-PAGE.

### Formulation:

The TRX His Tag protein solution contains 20mM Tris-HCl buffer (pH 8.0), 10% glycerol and 1mM DTT.

### Stability:

TRX His Tag although stable 4°C for 4 weeks, should be stored desiccated below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Usage:

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### 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

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