

## TXN1 Human, His

**Description:** Thioredoxin Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 125 amino acids (1-105 a.a.) and having a molecular mass of 13.9 kDa (Molecular weight on SDS-PAGE will appear higher). TXN protein is fused to a 20 amino acid His-Tag at N-terminus and purified by standard chromatography.

Catalog #:PRPS-811

For research use only.

**Synonyms:** Thioredoxin, ATL-derived factor, ADF, Surface-associated sulphhydryl protein, SASP, TXN, TRDX, TRX, TRX1, MGC61975, DKFZp686B1993.

**Source:** Escherichia Coli.

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

**Amino Acid Sequence:** MGSSHHHHHH SSGLVPRGSH MVKQIESKTA FQEALDAAGD  
KLVVDFSAT WCGPCKMIKP FFHSLSEKYS NVIFLEVDVD DCQDVASECE VKCMPTFQFF  
KKGQKVGFEFS GANKEKLEAT INELV.

**Purity:** Greater than 95.0% as determined by SDS-PAGE.

**Formulation:**

TXN1 solution containing 1x PBS pH 7.4.

**Stability:**

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

**Usage:**

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. They may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

**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. 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. Trx also provides control over a number of transcription factors affecting cell proliferation and death through a mechanism referred to as redox regulation.

**Biological Activity:**

Specific activity is 7-10 A650/min/mg, obtained by measuring the increase of insulin precipitation in absorbance at 650 nm resulting from the reduction of insulin.

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