# Recombinant Protein Technical Manual

## Recombinant Human Thioredoxin/TXN Protein (Active)

**RPES2365**

## Product Data:

**Product SKU:** RPES2365

**Size:** 200µg

**Species**: Human

**Expression host:** E. coli

**Uniprot:** P10599

## Protein Information:

**Molecular Mass:** 11.7 kDa

**AP Molecular Mass:** 14 kDa

**Tag:**

**Bio-activity:** Measured by its ability to catalyze the reduction of insulin. The specific activity is 5-9 pmoles/min/µg.2. Measured by its ability to catalyze the reduction of insulin. The reaction leads toprecipitation, which can be measured by absorbance at 650 nm. The specific activity is 50 A650/min/mg.

**Purity:** > 97 % as determined by reducing SDS-PAGE.

**Endotoxin:** Please contact us for more information.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from sterile PBS, pH 7.5

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Thioredoxin; Trx; ATL-Derived Factor; ADF; Surface-Associated Sulphydryl Protein; SASP; TXN; TRDX; TRX; TRX1

## Immunogen Information:

**Sequence:** Met 1-Val 105

## Background:

Thioredoxin, also known as ATL-derived factor, Surface-associated sulphydryl protein, SASP and TXN, is a nucleus, cytoplasm and secreted protein which belongs to the thioredoxin family. Thioredoxins are proteins that act as antioxidants by facilitating the reduction of other proteins by cysteine thiol-disulfide exchange. Thioredoxins are found in nearly all known organisms and are essential for life in mammals. Thioredoxin / TXN participates in various redox reactions through the reversible oxidation of its active center dithiol to a disulfide and catalyzes dithiol-disulfide exchange reactions. Thioredoxin / TXN plays a role in the reversible S-nitrosylation of cysteine residues in target proteins, and thereby contributes to the response to intracellular nitric oxide. Thioredoxin / TXN nitrosylates the active site Cys of CASP3 in response to nitric oxide (NO), and thereby inhibits caspase-3 activity. Thioredoxin / TXN induces the FOS/JUN AP DNA-binding activity in ionizing radiation (IR) cells through its oxidation/reduction status and stimulates AP transcriptional activity.