

Recombinant Human Thioredoxin (Trx)

Certificate of Analysis and Data Sheet

➤ Source: E.Coli	➤ Catalog No. PRO-334
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➤ **Background:**

Thioredoxins comprise a growing family of proteins that function as general protein-disulfide reductases and are maintained in their reduced active form by the flavoenzyme thioredoxin reductase. Human Trx-1 is mainly a cytosolic protein, although it has been shown to translocate into the nucleus upon certain stimuli and can also be secreted.

➤ **Description :**

Recombinant Human Thioredoxin produced in E.Coli is a single, non-glycosylated, polypeptide chain having a molecular mass of 11.73 kDa. Recombinant Human Thioredoxin is purified by proprietary chromatographic techniques.

➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

➤ **Formulation:**

Thioredoxin was lyophilized from a sterile solution containing 20mM phosphate buffer pH 7.4.

➤ **Solubility:**

It is recommended to reconstitute the lyophilized Human Thioredoxin in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Lyophilized Thioredoxin although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution Thioredoxin should be stored at 4° C between 2-7 days and for future use below -18° C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please avoid freeze-thaw cycles.

➤ **Purity:**

Greater than 95.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Anion-exchange FPLC.

(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Biological Activity:**

The specific activity was found to be 3 IU/mg.

➤ **Unit Definition:**

One unit equals the change of $\Delta A = 1$ unit in absorbance at 650 nm at 25°C using 0.13 μ M bovine insulin containing 0.33mM DTT (pH 6.5).

➤ **Endotoxin:**

Less than 0.1 ng/ μ g (IEU/ μ g) of Thioredoxin.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.