



Product Datasheet

Product Name	Thioredoxin E.Coli Recombinant
Cata No	CB500955
Source	<i>Escherichia Coli.</i>
Synonyms	Thioredoxin-1, Trx-1, trxA, fipA, tsnC, b3781, JW5856.

Description

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

Physical Appearance

Sterile Lyophilized Powder.

Biological Activity

TRX activity is assayed by measuring the change in absorbance at 650 nm at 25°C using 0.13µM bovine insulin containing 0.33mM DTT (pH 6.5). The specific activity was found to be 3IU/mg.

Purity

Greater than 90.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Formulation

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

Reconstitution

It is recommended to reconstitute the lyophilized TRX in sterile 18MΩ-cm H₂O.

Stability

TRX although stable at 4°C for 3 weeks, should be stored desiccated below -18°C.

Please prevent freeze thaw cycles.

Sequence

HMSDKIIHL TDDSFDTDVLKADGAIL VDFW
AEWCGPCKMIAPILDEI
GKLTVAKLNIDQNPGTAPKYGIRGIPTLLLFKNGEV
AATKVGAL DANLA