

Thioredoxin/TXN Protein, Human (Solution)

Cat. No.:	HY-P73431
Synonyms:	Thioredoxin; TXN; Trx; ADF; TRX1; SASP
Species:	Human
Source:	E. coli
Accession:	P10599 (M1-V105)
Gene ID:	7295
Molecular Weight:	Approximately 14 kDa

PROPERTIES

Biological Activity	Measured by its ability to catalyze the reduction of insulin. The reaction leads to precipitation, which can be measured by absorbance at 650 nm and the specific activity is 5-10 A650/min/mg.
Appearance	Solution.
Formulation	Supplied as a 0.2 µm filtered solution of PBS, pH 7.5
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	Thioredoxin/TXN Protein actively engages in diverse redox reactions, employing the reversible oxidation of its active center dithiol to form a disulfide bond, and catalyzes crucial dithiol-disulfide exchange reactions. Beyond its classical redox functions, Thioredoxin plays a pivotal role in the reversible S-nitrosylation of cysteine residues within target proteins, contributing to the cellular response to intracellular nitric oxide. Notably, it exerts regulatory control over caspase-3 activity by nitrosylating the active site cysteine of CASP3 in response to nitric oxide. Moreover, Thioredoxin demonstrates its influence on the FOS/JUN AP-1 DNA-binding activity in ionizing radiation cells, modulating AP-1 transcriptional activity through its oxidation/reduction status. Additionally, Thioredoxin is implicated in the augmentation of interleukin-2 receptor TAC (IL2R/P55) expression, highlighting its multifaceted role in cellular processes beyond redox regulation.
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Caution: Product has not been fully validated for medical applications. For research use only.

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