

Product Data Sheet

Product Name: Thioredoxin 1 (human, recombinant)

Cat. No.: GP29067

Product Data

Purity	≥95% estimated by SDS-PAGE	Source	Active recombinant N-terminal His-tagged thioredoxin 1 expressed in E. coli
Physical Appearance		Shipping Condition	Wet ice in continental
Synonyms	Trx1, Txn1		
Formulation			

Stability

Storage -80°C. Stability: ≥ 1 year

Background

Thioredoxin 1 (Trx1) is a thiol-disulfide oxidoreductase and part of the antioxidant thioredoxin system that is involved in the maintenance of cellular thiol redox homeostasis.^{1,2,3} It is ubiquitously expressed, localizes primarily to the cytoplasm with some nuclear localization, and is upregulated in and released from cells under conditions of oxidative stress.^{1,2,4} Trx1 contains two active site cysteine residues at positions 32 and 35, with additional cysteines at positions 62, 69, and 73.² During the catalytic cycle, the active site cysteines are oxidized to a disulfide upon reduction of oxidized protein disulfide substrates and are subsequently restored to their reduced state by thioredoxin reductase (TrxR) and NADPH.^{1,2} It regulates redox-sensitive transcription factors including NF-κB, p53, and the glucocorticoid receptor, as well as inhibits apoptosis through redox-sensitive binding and regulation of apoptosis signal-regulating kinase 1 (ASK1).^{2,4} Exogenous administration of extracellular recombinant human Trx1 has anti-inflammatory effects in a variety of animal models.² Trx1 levels are increased in a variety of human primary tumors, and increased tumor levels of Trx1 are associated with decreased survival in patients with colorectal cancer.⁴ Thioredoxin 1 (human, recombinant) protein can be used for enzyme activity assay and Western blot (WB) applications.

MW : 13.8 kDa

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

WARNING This product is not for human or veterinary use.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA