

Active Recombinant Human TXNRD1 Protein, His tagged

Cat. No. TXNRD1-22H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human TXNRD1 protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography techniques.
Species	Human
Source	E.coli
ProteinLength	161-649 aa
Description	The protein encoded by this gene belongs to the pyridine nucleotide-disulfide oxidoreductase family, and is a member of the thioredoxin (Trx) system. Three thioredoxin reductase (TrxR) isozymes are found in mammals. TrxRs are selenocysteine-containing flavoenzymes, which reduce thioredoxins, as well as other substrates, and play a key role in redox homeostasis. This gene encodes an ubiquitously expressed, cytosolic form of TrxR, which functions as a homodimer containing FAD, and selenocysteine (Sec) at the active site. Sec is encoded by UGA codon that normally signals translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, the Sec insertion sequence (SECIS) element, which is necessary for the recognition of UGA as a Sec codon rather than as a stop signal. Alternative splicing, primarily at the 5' end, results in transcript variants encoding same or different isoforms, including a glutaredoxin-containing isoform that is predominantly expressed in testis.
Form	Liquid in 20mM Tris-HCl buffer (pH 8.0) containing 30% glycerol, 0.1mM PMSF, 0.1M

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	NaCl
Bio-activity	Specific activity is > 15 unit/mg, and was measured in a coupled assay with 5,5 - Dithiobis(2-nitrobenzoic acid) (DTNB) and NADPH. The amount of TNB generated by NADPH was measured in absorbance at 412 nm.
Molecular Mass	55.9 kDa (510aa) confirmed by MALDI-TOF
AASequence	YDYDLIIIGGGSGGLAAAKEAAQYGKKVMVLDFVTPTPLGTRWGLGGTCVNVGCIPK KLMHQAALLGQALQDSRNYGWKVEETVKHDWDRMIEAVQNHIGSLNWGYRVALRE KKVYENAYGQFIGPHRIKATNNKGKEKIYSAERFLIATGERPRYLGPDKKEYCISSD DLFSLPYCPGKTLVVGASYVALECAGFLAGIGLDVTVMVRSILLRGFDQDMANKIGE HMEEHGKIFIRQFVPIKVEQIEAGTPGRLRVVAQSTNSEEIIIEGEYNTVMLAIGRDACT RKIGLETVGVKINEKTGKIPVTDEEQTNVPYIYAIGDILEDKVELTPVAIQAGRLLAQRL YAGSTVKCDYENVPTTVFTPLEYGACGLSEEKAVEKFGEENIEVYHSYFWPLEWTIP SRDNNKCYAKIICNTKDNERVVG FHVLPNAGEVTQGFAAALKCGLTKKQLDSTIGI HPVCAEVFTTLSVTKRSGASILQAGCCG
Purity	> 90% by SDS-PAGE
Applications	SDS-PAGE, Enzyme Activity
Notes	For research use only. This product is not intended or approved for human, diagnostics or veterinary use.
Storage	Can be stored at +2 to +8 centigrade for 1 week. For long term storage, aliquot and store at -20 to -80 centigrade. Avoid repeated freezing and thawing cycles.
Concentration	1 mg/mL (determined by BCA assay)

Reference

1. Ma X., et al. (2002) J Biol Chem. 277(25):22460-8. 2. Javvadi P., et al. (2010) Cancer Res. 70(5):1941-50.

GENE INFORMATION
Gene Name

TXNRD1 thioredoxin reductase 1 [Homo sapiens (human)]

Official Symbol

TXNRD1

Synonyms

TXNRD1; thioredoxin reductase 1; thioredoxin reductase 1, cytoplasmic; GRIM 12; Trxr1; TXNR; oxidoreductase; thioredoxin reductase TR1; thioredoxin reductase GRIM-12; KM-102-derived reductase-like factor; gene associated with retinoic and IFN-induced mortality 12 protein; gene associated with retinoic and interferon-induced mortality 12 protein; TR; TR1; TRXR1; GRIM-12; MGC9145;

Gene ID

7296

mRNA Refseq

NM_001093771

Protein Refseq

NP_001087240

MIM

601112

UniProt ID

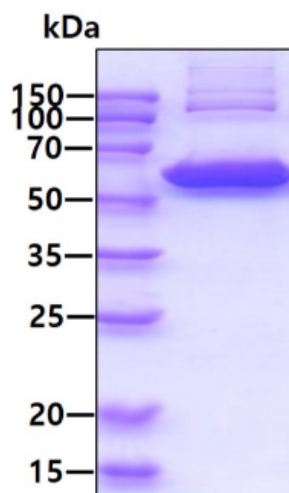
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SDS-PAGE



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