

Active Recombinant Human Thioredoxin Reductase 1

Cat. No. TXNRD1-1117H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	HumanTXNRD1 (161 a.a. - 647 a.a.) partial recombinant protein with His tagexpressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	161-647 a.a.
Description	TXNRD1is an enzyme that in humans is encoded by the TXNRD1 gene. This gene encodesa member of the family of pyridine nucleotide oxidoreductases. This proteinreduces thioredoxins as well as other substrates, and plays a role inselenium metabolism and protection against oxidative stress. The functionalenzyme is thought to be a homodimer which uses FAD as a cofactor.
Form	Liquid
Molecular Weight	55.7 kDa
Purity	>95% by SDS-PAGE.
Activity	Specificactivity is 0.48-0.6 units/mL, and was measured in a coupled assay with DTNBand NADPH. The amount of TNB generated by NADPH was measured in absorbance at412 nm.

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Buffer	In PBS, pH7.4 (10% glycerol).
Quality Control Testing	Loading 3 ugprotein in 15% SDS-PAGE.
Purification	ConventionalChromatography.
Concentration	0.5 mg/mL
Sequences of aminoacids	MGSSHHHHHH SSGLVPRGSH MYDYDLIIIG GSGGGLAAAK EAAQYGKKVMVLDFTPTPL GTRWGLGGTC VNVGCIPKKL MHQAALLGQA LQDSRNYGWK VEETVKHDWD RMIEAVQNHI GSLNWGYRVALREKKVYEN AYGQFIGPHR IKATNNKGKE KIYSAERFLI ATGERPRYL IPGDKEYCIS SDDLFLSLPYCPGKTLVVGAS YVALECAGFL AGIGLDVTVM VRSILLRGFD QDMANKIGEH MEEHGIKFIR QFVPIKVEQIEAGTPGRLRV VAQSTNSEEI IEGEYNTVML AIGRDACTRK IGLETVGSKI NEKTGKIPVT DEEQTNVPYIYAIGDILEDK VELTPVAIQA GRLLAQRLYA GSTVKCDYEN VPTTVFTPL YGACGLSEEK AVEKFGEENIEVYHSYFWPL EWTIPSRDNN KCYAKIICNT KDNERVVG FH VLGNAGEVT QGFAAALKCG LTKKQLDSTIGIHPVCAEVF TTLSVTKRSG ASILQAGC
Storage	Storeat 4°C for 1-2 weeks. For long term storage store at -20°C or -80°C. Aliquotto avoid repeated freezing and thawing.

GENE INFORMATION

Gene Name	TXNRD1 thioredoxinreductase 1 [Homo sapiens]
Official Symbol	TXNRD1
Synonyms	TXNRD1;thioredoxin reductase 1; TR; TR1; TXNR; TRXR1; GRIM-12; MGC9145;

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thioredoxin reductase 1, cytoplasmic; 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; EC 1.8.1.9; EC 1.8.1; OTTHUMP00000232986; OTTHUMP00000232988; OTTHUMP00000232990; OTTHUMP00000232992; OTTHUMP00000232993; OTTHUMP00000232996; OTTHUMP00000232997; OTTHUMP00000232999

Gene ID [7296](#)

mRNA Refseq [NM_003330](#)

Protein Refseq [NP_003321](#)

MIM [601112](#)

UniProt ID [Q16881](#)

Chromosome Location 12q23-q24.1

Pathway Fatty acid triacylglycerol and ketone body metabolism; Metabolism; Metabolism of lipids and lipoproteins; Metabolism of nucleotides; Oxidative Stress; PPARA Activates Gene Expression; Pyrimidine metabolism; Regulation of Lipid Metabolism by Peroxisome proliferator-activated receptor alpha (PPARalpha); Selenium Metabolism and Selenoproteins; Selenium Pathway; Seleno compound metabolism; Synthesis and interconversion of nucleotide di- and triphosphates; selenium; thioredoxin pathway

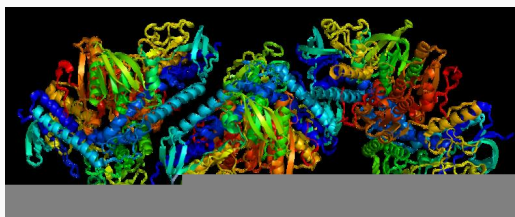
Function NADP binding; electron carrier activity; flavin adenine dinucleotide binding; oxidoreductase activity; protein disulfide oxidoreductase activity; thioredoxin-disulfide reductase activity

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PDB rendering based
on1h6v.



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