

Recombinant Rat Txnrd1 Protein

Cat. No. Txnrd1-22R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat Thioredoxin Reductase 1 (Non-tagged, 499 residues)
Species	Rat
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.
Purity	≥ 95% as judged by gel analysis
Unit Definition	1 U of enzyme reduces 1 μmol DTNB per min in 0.5 mL standard DTNB assay containing 2.5 mM DTNB and 0.3 mM NADPH in TE buffer (50 mM Tris-HCl, 2 mM EDTA, pH 7.5)
Applications	DTNB assay; Insulin-coupled Thioredoxin assay; Inhibitor screening; etc.

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Notes	Centrifuge the tube briefly before opening the lid
Storage	Store at -20 centigrade upon delivery.
Concentration	1 mg/mL
Storage Buffer	TE buffer with 50% glycerol.

GENE INFORMATION

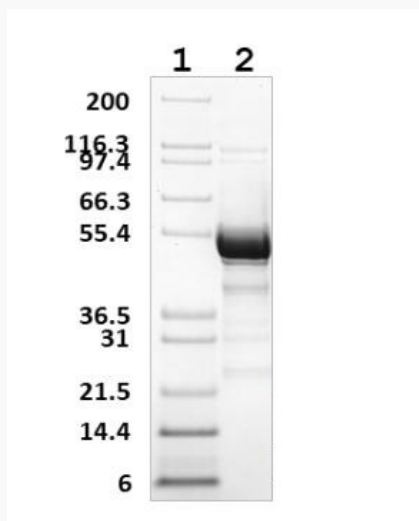
Gene Name	Txnrd1 thioredoxin reductase 1 [Rattus norvegicus (Norway rat)]
Official Symbol	Txnrd1
Synonyms	TXNRD1; thioredoxin reductase 1; TR; TR1; TXNR; TRXR1; GRIM-12; thioredoxin reductase 1, cytoplasmic; KM-102-derived reductase-like factor; gene associated with retinoic and IFN-induced mortality 12 protein; gene associated with retinoic and interferon-induced mortality 12 protein; oxidoreductase; peroxidase TXNRD1; selenoprotein TXNRD1; testis tissue sperm-binding protein Li 46a; thioredoxin reductase GRIM-12; thioredoxin reductase TR1; EC 1.11.1.2; EC 1.8.1.9
Gene ID	58819
mRNA Refseq	NM_031614
Protein Refseq	NP_113802
UniProt ID	O89049

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Coomassie stained
SDS PAGE analysis
of 10 µg RTRXR1
product



Lane 1: Molecular weight marker

Lane 2: RTRXR1

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