

Recombinant Rat Txnrd2 Protein, 490 residues

Cat. No. Txnrd2-15R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat Thioredoxin Reductase 2 (Non-tagged, no signal peptide sequence, 490 residues)
Species	Rat
ProteinLength	490 residues
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 a mitochondrial form important for scavenging reactive oxygen species in mitochondria. It 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.
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)

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Applications	DTNB assay; Insulin-coupled Thioredoxin assay; Inhibitor screening; etc.
Notes	Centrifuge the tube briefly before opening the lid.
Concentration	0.2 mg/mL
Storage Buffer	TE buffer with 50% glycerol
Shipping	Shipped in cold pack by courier service. Store at -20 centigrade upon delivery.
References	1. Cheng Q, Arnér ES. (2017) Selenocysteine Insertion at a Predefined UAG Codon in a Release Factor 1 (RF1)-depleted Escherichia coli Host Strain Bypasses Species Barriers in Recombinant Selenoprotein Translation. J Biol Chem. 292:5476-5487. 2. Arnér ES, Holmgren A. (2001) Measurement of thioredoxin and thioredoxin reductase. Curr Protoc Toxicol. Chapter 7:Unit 7.4.

GENE INFORMATION

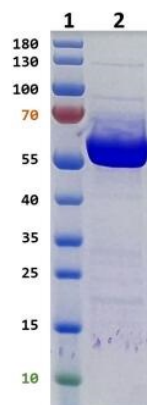
Gene Name	Txnrd2 thioredoxin reductase 2 [Rattus norvegicus]
Official Symbol	Txnrd2
Synonyms	TXNRD2; thioredoxin reductase 2; thioredoxin reductase 2, mitochondrial; thioredoxin reductase TR3; Tr3; Trxr2; Trxrd2; MGC93435
Gene ID	50551
mRNA Refseq	NM_022584
Protein Refseq	NP_072106

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**Coomassie stained
SDS PAGE analysis
of 10 µg RTRXR2.**



Lane 1: MW marker (PageRuler Prestained Protein Ladder 10-180 kDa)

Lane 2: RTRXR2

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