

# Recombinant Mouse Thioredoxin Reductase 1, His-tagged

**Cat. No.** Txnrd1-736M    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant mouse cytosolic thioredoxin with a 6-His tag is fully active with thioredoxin reductase. Mr is approximately 12,000 D.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Species</b>          | Mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Description</b>      | This gene encodes a member of the family of pyridine nucleotide oxidoreductases. This protein reduces thioredoxins as well as other substrates, and plays a role in selenium metabolism and protection against oxidative stress. The functional enzyme is thought to be a homodimer which uses FAD as a cofactor. Each subunit contains a selenocysteine (Sec) residue which is required for catalytic activity. The selenocysteine is encoded by the UGA codon that normally signals translation termination. The 3' UTR of selenocysteine-containing genes have a common stem-loop structure, the sec insertion sequence (SECIS), that is necessary for the recognition of UGA as a Sec codon rather than as a stop signal. Alternative splicing results in several transcript variants encoding the same or different isoforms. |
| <b>Purity</b>           | Purified via immunoaffinity column chromatography, it contains no E. coli Thioredoxin-S2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Presentation</b>     | 100 µg of protein, salt-free, lyophilized from 0.5% NH <sub>4</sub> CO <sub>3</sub> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Reconstitution</b>   | Add 100 µL of filtered deionized water or physiological buffer to generate a 1 mg/mL solution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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**Storage** Store the lyophilized product at 2° - 8°C.

## GENE INFORMATION

**Gene Name** Txnrd1 thioredoxin reductase 1 [ *Mus musculus* ]

**Synonyms** Txnrd1; thioredoxin reductase 1; TR; TR1; TrxR1; thioredoxin reductase 1, cytoplasmic; TR alpha; thioredoxin reductase TR1; EC 1.8.1.9

**Gene ID** 50493

**mRNA Refseq** NM\_001042513

**Protein Refseq** NP\_001035978

**UniProt ID** Q9JMH6

**Chromosome Location** 10 C1; 10

**Pathway** Pyrimidine metabolism

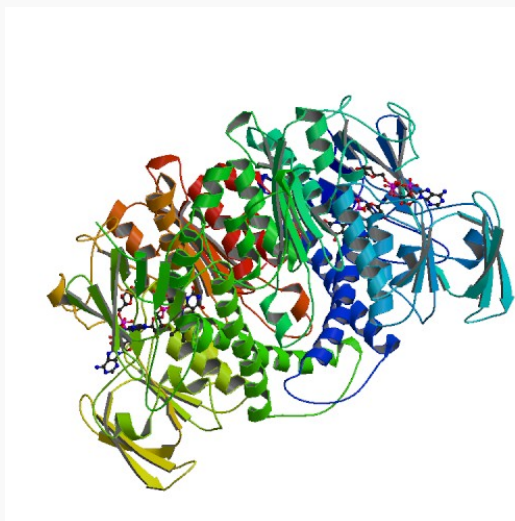
**Function** FAD binding; NADP or NADPH binding; oxidoreductase activity; oxidoreductase activity, acting on sulfur group of donors, NAD or NADP as acceptor; thioredoxin-disulfide reductase activity

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PDB rendering based  
on 1h6v.



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