

Product datasheet for **RN210733**

Txnrd1 (NM_031614) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Txnrd1 (NM_031614) Rat Untagged Clone
Symbol:	Txnrd1
Synonyms:	Tr
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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Fully Sequenced ORF: >RN210733 representing NM_031614
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAATGACTCTAAAGATGCCCCCTAAGTCCTATGACTTCGACCTGATCATCATTGGAGGAGGCTCGGGAG
 GCCTGGCGGCAGCTAAGGAGGCAGCCAAATTTGACAAGAAGGTGATGGTCTTGGACTTCGTCACACCAAC
 TCCTCTCGGAACGAGATGGGGTCTCGGGGGAACGTGTGTGAACGTGGGCTGCATACCTAAAAAAGTATG
 CACCAGGCGGCTCTGTTAGGACAAGCTCTGAAAGACTCACGCAACTATGGCTGGAAACTCGAGGACACAG
 TTAAGCATGACTGGGAGAAAATGACAGAATCTGTGCAGAATCATATCGGCTCGCTGAACTGGGGCTACCG
 AGTAGCTCTCCGGGAGAAGAAGTTGTCTATGAGAATGCTTACGGGAAATTCATTGGTCTCACAAAATT
 ATGGCAACAAATAACAAAGGTAAGAAAAAGTTTACTCAGCAGAGCGGTTCTCATTGCCACCGGTGAAA
 GGCCGCGTACCTGGGCATCCCTGGAGACAAAGAGTACTGCATCAGCAGTACGATCTTTTCTCCTTGCC
 TTAGTCCCGGGGAAGACCCTAGTGGTTGGCGCTCCTATGTGCGCTTGGATGTGCAGGATTCCTGGCT
 GGTATCGGCCTCGACGCTCACTGTAATGGTGCAGTCCATTCTCCTTAGAGGATTTGACCAGGACATGGCCA
 ACAAATTTGGTGAACACATGGAAGAGCATGGTATCAAGTTTATCAGGCAGTTCGTGCCGACGAAAATTGA
 ACAGATTGAAGCAGGGACACCAGGCCGACTCAAGGTGACCGCTAAGTCCACAAACAGTGAGGAGACCATA
 GAAGACGAATTTAACACAGTGTGCTTGCAGTAGGAAGAGATTCTGTACAAGAATATTGGCTTAGAGA
 CCGTGGGCGTGAAGATCAATGAAAAGACCGGGAAGATACCTGTACCGGATGAGGAGCAGACCAATGTGCC
 TTACATCTACGCCATTGGTGACATTCTGGAGGGGAAGCTGGAGCTGACCCCGTGGCCATCCAGGCGGGG
 AGATTGCTGGCTCAGAGGCTGTATGGCGGCTCCACTGTCAAATGTGACTATGACAATGTCCCAACGACTG
 TGTTTACTCCTTTGGAGTATGGCTGTGGCCCTCTGGAAGAAAAGCTGTAGAGAAAATTTGGGGAAGA
 AAATATTGAAGTTTACCACAGTTTCTTCTGGCCATTGGAATGGACAGTTCATCCCGGGATAACAACAAA
 TGTTATGCAAAAGTCGTCTGTAACCTTAAAGACAAACGACGTGTGCTGGGCTTCCACGACTGGGTCCAA
 ATGCTGGAGAGGTGACGCAGGGCTTGCAGCCGCACTCAAGTGCAGGCTGACCAAGCAGCAGCTGGACAG
 CACCATTGGCATCCACCCGGTCTGTGCAGAGATATTTACAACGCTGTGCGGTGACTAAGCGTTCTGGGGGA
 GACATCTCCAGTCTGGCTGCTGAGGT**TAA**

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI

ACCN: NM_031614

Insert Size: 1500 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP). The expression of this clone is not guaranteed due to the nature of selenoproteins.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_031614.2](#), [NP_113802.2](#)

RefSeq Size: 3450 bp

RefSeq ORF: 1500 bp

Locus ID: 58819

Cytogenetics: 7q13

Gene Summary: 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. [provided by RefSeq, Jun 2017]

Transcript Variant: This variant (1) represents the predominant transcript and encodes isoform 1. Variants 1-3 encode the same isoform.