

## Product datasheet for **RN207441**

### **Txnrd2 (NM\_022584) Rat Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Txnrd2 (NM_022584) Rat Untagged Clone
Symbol:	Txnrd2
Synonyms:	Tr3; Trxr2; Trxrd2
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



[View online »](#)

**Fully Sequenced ORF:** >RN207441 representing NM\_022584  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGCGGATTGTGGCGCGCTGCGCGGATCCAGCGGGCGCTTCGGCCGCAGACACGGGTTTTAACAC  
 GCGGGACGCGGGCGCGCGGGCGCGGAGCGCAGCGGGAGGGCAGCAGAACTTTGATCTTTGGTGAT  
 CGGTGGGGGATCCGGTGGCCTAGCTTGTGCCAAGGAAGCGGCTCAGCTGGGAAGGAAGTGGCTGTGGCT  
 GACTATGTGGAACCTCTCCCGAGGCACCAAATGGGGCCTTGGTGGCACCTGTGTCAACGTGGGCTGCA  
 TACCCAAGAAGCTGATGCATCAGGCCGACTGTGGGGGCATGATCAGAGATGCTCAGCACTACGGCTG  
 GGAGGTGGCCAGCCTGTCCAGCACAATGGAAGGCAATGGCCGAAGCCGTGCAAAACCATGTGAAGTCC  
 TTGAATGGGGTCATCGTGTCCAATGCAGGACAGGAAAGTCAAGTACTTTAACATCAAAGCCAGCTTTG  
 TCAACGAGCACACAGTTCACGGTGTGACAAAGCCGGGAAGGTGACTCAGCTTTCAGCCAAGCACATAGT  
 CATCGCTACAGGAGGACGCCGAAGTACCCACACAGGTCAAAGGAGCCCTGGAACACGGAAATCACAAAT  
 GATGACATCTTCTGGCTGAAGGAGTCCCTGGGAAAACGTTGGTGGTTGGAGCCAGTTATGTGGCCCTGG  
 AGTGTGCCGGCTTCTCACTGGTATTGGCTGGATACCACGGTCAATGATGCGCAGCGTGGCCCTCCGAGG  
 CTTTGACCAGCAAATGGCGTCTTTGGTACAGAGCACATGGAGTCTCATGGCACCCGGTCTCTGAAAGGC  
 TGTGTCCCTCCCTCATCAGAAAACCTCCGACTAACCAACTGCAGGTCACTTGGGAGGATCTCGCTTCTG  
 GCAAGGAGGACGTGGGCACCTTTGACACTGTCTGTGGGCCATAGGGCGAGTTCAGAGACCAGAAATTT  
 GAATCTGGAGAAGGCTGGCGTTAATACCAACCTAAGAATCAGAAGATCATTGTGGATGCCAGGAGGCC  
 ACCTCTGTCCCCACATCTATGCCATTGGAGATGTTGCTGAGGGGCGCCTGAGCTGACACCCACAGCTA  
 TCAAGGCAGGAAAGCTTCTGGCTCAGCGGCTCTTTGGGAAATCCTCAACCTTAATGAATTACAGCAACGT  
 CCCACAACGTCTTTACACCACCTGGAGTATGGCTGTGTGGGACTGTCTGAGGAGGAGGCTGTGGCTCTC  
 CACGGCCAGGAGCATATAGAGGTTTACCATGCATATTACAAGCCCTAGAGTTTACAGTGGCAGATCGGG  
 ATGCATCACAGTGTACATAAAGATGGTATGCATGAGGGAGCCCCACAACCTGGTACTGGGCCTGCACTT  
 CCTTGGCCCCAACGCTGGAGAAGTACACAAGGATTTGCTCTTGGGATCCAGTGTGGGGCTTCATACGCA  
 CAGGTGATGCAGACAGTAGGGATCCACCCACCTGCTCTGAGGAGGTGGTTAAGCTGCACATCTCCAAGC  
 GCTCTGGCCTGGATCCTACTGTGACTGGCTGCTGAGGT**TAA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-Mlul

**ACCN:** NM\_022584

**Insert Size:** 1581 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\\_022584.2](#), [NP\\_072106.1](#)

**RefSeq Size:** 1989 bp

**RefSeq ORF:** 1581 bp

**Locus ID:** 50551

**UniProt ID:** [Q9Z0J5](#)

**Cytogenetics:** 11q23

**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 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. [provided by RefSeq, Jun 2017]