

## Product datasheet for **SC316250**

### **TXNRD1 (NM\_001093771) Human Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	TXNRD1 (NM_001093771) Human Untagged Clone
Symbol:	TXNRD1
Synonyms:	GRIM-12; TR; TR1; TRXR1; TXNR
Vector:	<u><a href="#">pCMV6 series</a></u>



[View online »](#)

**Fully Sequenced ORF:** >NCBI ORF sequence for NM\_001093771, the custom clone sequence may differ by one or more nucleotides

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ATGGGCTGCGCCGAGGGCAAGGCAGTGGCGGGCCGCCCAACGGAGCTGCAGACGAAA
GGCAAGAACGGCGATGGCCGCCGTAGGTCAGCTAAAGATCATCACCTGGTAAAACCTTG
CCAGAGAACCCAGCAGGATTCACCAGCACGGCCACTGCAGACTCCAGAGCCCTGCTTCAG
GCCTATATAGATGGTCACTCTGTGGTCATCTTCAGTAGGTCACATGCACACGCTGTACT
GAGGTAAGAAGTTATTTAAATCTGTGTGTTCTTATTTTGTGCTTGAACCTTGATCAA
ACAGAGGACGGTCGGCCCTGGAAGGAACGCTCTCGGAATTGGCCGCGAAACCGATCTG
CCCCTTGTGTTTGTGAAACAGAGAAAGATAGGCGGCCATGGTCCAACCTTGAAGGCTTAT
CAGGAGGGCAGACTTCAAAGCTACTAAAAATGAACGGCCCTGAAGATCTTCCAAGTCC
TATGACTATGACCTTATCATCATTGGAGGTGGCTCAGGAGGTCTGGCAGCTGCTAAGGAG
GCAGCCCAATATGGCAAGAAGGTGATGGTCTGGACTTTGTCACTCCACCCCTCTTGGAA
ACTAGATGGGGTCTCGGAGGAACATGTGTGAATGTGGGTGCATACCTAAAAACTGATG
CATCAAGCAGCTTGTAGGACAAGCCCTGCAAGACTCTCGAAATATGGATGGAAGTC
GAGGAGACAGTTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAGAATCACATTGGC
TCTTTGAATTGGGGCTACCGAGTAGCTCTGCGGGAGAAAAAAGTCGTCTATGAGAATGCT
TATGGGCAATTTATTGGTCTCACAGGATTAAGGCAACAATAATAAAGGCAAGAAAAA
ATTTATTCAGCAGAGAGATTTCTCATTGCCACTGGTGAAGACCACGTTACTTGGGCATC
CCTGGTGACAAAGAATACTGCATCAGCAGTGTATGATCTTTTCTCCTTGCCTTACTGCCCG
GGTAAGACCCTGGTTGTTGGAGCATCCTATGTCGCTTTGGAGTGGCTGGATTTCTTGCT
GGTATTGGTTTAGACGTCCTGTTATGGTTAGGTCCATTCTTCTAGAGGATTTGACCAG
GACATGGCCAACAAAATTGGTGAACACATGGAAGAACATGGCATCAAGTTTATAAGACAG
TTCGTACCAATTAAGTTGAACAAATTGAAGCAGGGACACCAGGCCGACTCAGAGTAGTA
GCTCAGTCCACCAATAGTGAGGAAATCATTGAAGGAGAATAATAACGGTGATGCTGGCA
ATAGGAAGAGATGCTTGACAAGAAAAATTGGCTTAGAAACCGTAGGGGTGAAGATAAAT
GAAAAGACTGAAAAATACCTGTACAGATGAAGAACAGACCAATGTGCCTTACATCTAT
GCCATTGGCGATATATTGGAGGATAAAGGTGGAGCTCACCCAGTTGCAATCCAGGCAGGA
AGATTGCTGGCTCAGAGGCTCTATGCAGGTTCCACTGTCAAGTGTGACTATGAAAATGTT
CCAACCACTGTATTTACTCCTTTGGAATATGGTGTGTTGGCCTTTCTGAGGAGAAAGCT
GTGGAGAAGTTTGGGAAGAAAAATTGAGGTTTACCATAGTTACTTTTGGCCATTGGAA
TGGACGATTCCGTCAGAGATAACAACAATGTTATGCAAAAATAATCTGTAATACTAAA
GACAATGAACGTGTTGTGGGCTTTCACGTAAGGTTCCAAATGCTGGAGAAGTTACACAA
GGCTTTGCAGCTGCGCTCAAATGTGGACTGACCAAAAAGCAGCTGGACAGCACAATTGGA
ATCCACCTGTCTGTGCAGAGGTATTCACAACATTGTCTGTGACCAAGCGCTCTGGGGCA
AGCATCTCCAGGCTGGCTGCTGAGGT
    
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**Restriction Sites:** Please inquire

**ACCN:** NM\_001093771

**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.

**OTI Annotation:** This clone encodes a selenoprotein containing the rare amino acid selenocysteine (Sec). Sec is encoded by UGA codon, which normally signals translational termination. 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\\_001093771.1](#), [NP\\_001087240.1](#)

**RefSeq Size:** 3859 bp

**Locus ID:** 7296

**UniProt ID:** [Q16881](#)

**Cytogenetics:** 12q23.3

**Protein Families:** Druggable Genome

**Protein Pathways:** Pyrimidine metabolism

**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, including a glutaredoxin-containing isoform that is predominantly expressed in testis. [provided by RefSeq, May 2017]

Transcript Variant: This variant (7, also known as beta 1) represents use of an alternate upstream promoter, and contains additional exons at the 5' end compared to variant 1. The encoded isoform (5, also known as TXNRD1\_v3 or v3) has a longer and distinct N-terminus, resulting from translation initiation at an in-frame upstream start codon, compared to isoform 1. It is predominantly expressed in Leydig cells of testis, and contains an atypical N-terminal glutaredoxin domain, which induces actin and tubulin polymerization, leading to formation of cell membrane protrusions (PMID:18042542).