

Product datasheet for **SC310319**

TXNRD1 (NM_182742) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TXNRD1 (NM_182742) Human Untagged Clone
Symbol:	TXNRD1
Synonyms:	GRIM-12; TR; TR1; TRXR1; TXNR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >SC310319 representing NM_182742.
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

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GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
GATCCGGTACCGAGGAGATCTGCCGCCCGGATCGCC
ATGAACGGCCCTGAAGATCTTCCCAAGTCCTATGACTATGACCTTATCATCATTGGAGTGCGCTCAGGA
GGTCTGGCAGCTGCTAAGGAGGCAGCCCAATATGGCAAGAAGGTGATGGTCTGGACTTTGTCACTCCC
ACCCCTCTTGAACTAGATGGGGTCTCGGAGGAACATGTGTGAATGTGGGTTGCATACCTAAAAAAGT
ATGCATCAAGCAGCTTTGTTAGGACAAGCCCTGCAAGACTCTCGAAATTATGGATGGAAAGTCGAGGAG
ACAGTTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAGAATCACATTGGCTCTTTGAATTGGGGC
TACCGAGTAGCTCTGCGGGAGAAAAAGTCGTCTATGAGAATGCTTATGGCAATTTATTGGTCTCAC
AGGATTAAGGCAACAAATAATAAAGGCAAAAGAAAAATTTATTTCAGCAGAGAGATTTCTCATTGCCACT
GGTGAAAGACCACGTTACTTGGGCATCCCTGGTGACAAAGAATACTGCATCAGCAGTGATGATCTTTTC
TCCTTGCCTTACTGCCCGGTAAGACCCTGGTTGTTGGAGCATCCTATGTCGCTTTGGAGTGCCTGGA
TTTCTTGCTGGTATTGGTTTAGACGTCCTGTTATGGTTAGGTCATTCTTCTTAGAGGATTTGACCAG
GACATGGCCAACAAAATTGGTGAACACATGGAAGAACATGGCATCAAGTTATAAGACAGTTCGTACCA
ATTAAGTTGAACAAAATTGAAGCAGGGACACCAGGCCGACTCAGAGTAGTAGCTCAGTCCACCAATAGT
GAGGAAATCATTGAAGGAGAATAATAACGGTGTGCTGGCAATAGGAAGAGATGCTTGCACAAGAAAA
ATTGGCTTAGAAACCGTAGGGGTGAAGATAAATGAAAAGACTGGAAAAATACCTGTCACAGATGAAGAA
CAGACCAATGTGCCTTACATCTATGCCATTGGCGATATATTGGAGGATAAGGTGGAGTCCACCCAGTT
GCAATCCAGGCAGGAAGATTGCTGGCTCAGAGGCTCTATGCAGGTTCCACTGTCAAGTGTGACTATGAA
AATGTTCCAACCACTGTATTTACTCCTTTGGAATATGGTGCTTGTGGCCTTTCTGAGGAGAAAGCTGTG
GAGAAGTTTGGGAAGAAAAATTTGAGGTTTACCATAGTTACTTTGGCCATTGGAATGGACGATTCCG
TCAAGAGATAACAACAAATGTTATGCAAAAATAATCTGTAATACTAAAGACAATGAACGTGTTGTGGGC
TTTCACGTAAGTCCAAATGCTGGAGAGTTACACAAGGCTTTGCAGCTGCGCTCAAATGTGGACTG
ACCAAAAAGCAGCTGGACAGCACAATTGGAATCCACCCTGTCTGTGCAGAGGATTACACAACATTGTCT
GTGACCAAGCGCTCTGGGCAAGCATCCTCCAGGCTGGCTGTGAGGTTAA
ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT
TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC
  
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Restriction Sites: Sgfl-Mlul

Plasmid Map: □

ACCN: NM_182742

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.

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_182742.2](#)

RefSeq Size: 4096 bp

RefSeq ORF: 1500 bp

Locus ID: 7296

UniProt ID: [Q16881](#)

Cytogenetics: 12q23.3

Protein Families: Druggable Genome

Protein Pathways: Pyrimidine metabolism

MW: 54.7 kDa

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 (2) differs in the 5' UTR compared to variant 1. Variants 1-3 encode the same isoform (1, also known as TXNRD1_v1), which is thought to regulate expression of genes associated with differentiation and adhesion (PMID:26464515).