

Product datasheet for **SC107563**

TXNRD1 (NM_182743) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TXNRD1 (NM_182743) Human Untagged Clone
Symbol:	TXNRD1
Synonyms:	GRIM-12; TR; TR1; TRXR1; TXNR
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>NCBI ORF sequence for NM_182743, the custom clone sequence may differ by one or more nucleotides

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ATGAACGGCCCTGAAGATCTTCCAAGTCTATGACTATGACCTTATCATCATTGGAGGTGGCTCAGGAG
GTCTGGCAGCTGCTAAGGAGGCAGCCCAATATGGCAAGAAGGTGATGGTCTGGACTTTGTCACTCCCAC
CCCTCTTGGAACTAGATGGGGTCTCGGAGGAACATGTGTGAATGTGGGTTGCATACCTAAAAACTGATG
CATCAAGCAGCTTTGTTAGGACAAGCCCTGCAAGACTCTCGAAATATGGATGGAAGTCGAGGAGACAG
TTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAGAATCACATTGGCTCTTTGAATTGGGGCTACCG
AGTAGCTCTGCGGAGAAAAAGTCGTCTATGAGAATGCTTATGGGCAATTTATTGGTCTCACAGGATT
AAGGCAACAATAATAAGGCAAAGAAAAATTTATTCAGCAGAGAGATTCTCATTGCCACTGGTGAAA
GACCACGTTACTTGGGCATCCCTGGTGACAAAGAATACTGCATCAGCAGTGATGATCTTTTCTCCTTGCC
TACTGCCCCGGTAAGACCCTGGTTGTTGGAGCATCCTATGTCGCTTTGGAGTGCCTGGATTTCTTGCT
GGTATTGGTTTAGACGTCACGTGTTATGGTTAGGTCATTCTTCTTAGAGGATTTGACCAGGACATGGCCA
ACAAAATTGGTGAACACATGGAAGAACATGGCATCAAGTTTATAAGACAGTTCGTACCAATTAAGTTGA
ACAAATTGAAGCAGGGACACCAGGCCACTCAGAGTAGTAGCTCAGTCCACCAATAGTGAGGAAATCATT
GAAGGAGAATAAATACGGTGATGCTGGCAATAGGAAGAGATGCTTGACAAGAAAAATTGGCTTAGAAA
CCGTAGGGGTGAAGATAAATGAAAAGACTGAAAAATACCTGTCACAGATGAAGAACAGACCAATGTGCC
TTACATCTATGCCATTGGCGATATATTGGAGGATAAGGTGGAGCTCACCCAGTTGCAATCCAGGCAGGA
AGATTGCTGGCTCAGAGGCTCTATGCAGGTTCCACTGTCAAGTGTGACTATGAAAATGTTCCAACCACTG
TATTTACTCCTTTGGAATATGGTCTTGTGGCCTTTCTGAGGAGAAAGCTGTGGAGAAGTTTGGGGAAGA
AAATATTGAGGTTTACCATAGTTACTTTTGGCCATTGGAATGGACGATTCGGTCAAGAGATAACAACAAA
TGTTATGCAAAAAATACTGTAATACTAAAGACAATGAACGTGTTGTGGGCTTTCACGACTGGGTTCCAA
ATGCTGGAGAAGTTACACAAGGCTTTCAGCTGCGCTCAAATGTGGACTGACCAAAAAGCAGCTGGACAG
CACAATTGGAATCCACCTGTCTGTGCAGAGGTATTCACAACATTGTCTGTGACCAAGCGCTCTGGGGCA
AGCATCCTCCAGGCTGGCTGCTGAGGTTAA
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5' Read Nucleotide Sequence:	>OriGene 5' read for NM_182743 unedited TGAAGAGGGCCTGATGTCTTCATCATTCTCAAATTCCTTGCTTATCAGGAGGGCAGACTTC AAAAGCTACTAAAAATGAACGGCCCTGAAGATCTCCCAAGTCCTATGACTATGACCTTA TCATCATTGGAGGTGGCTCAGGAGGTCTGGCAGCTGCTAAGGAGGCAGCCCAATATGGCA AGAAGGTGATGGTCTGGACTTTGTCACCTCCACCCTCTTGGAACTAGATGGGGTCTCG GAGGAACATGTGTGAATGTGGTTGCATACCTAAAAAACTGATGCATCAAGCAGCTTTGT TAGGACAAGCCCTGCAAGACTCTCGAAATTATGGATGGAAGTCGAGGAGACAGTTAAGC ATGATTGGGACAGAATGATAGAAGCTGTACAGAATCACATTGGCTCTTTGAATTGGGGCT ACCGAGTAGCTCTGCGGGAGAAAAAAGTCGTCTATGAGAATGCTTATGGGCAATTTATTG GTCCTCACAGGATTAAGGCAACAATAATAAAGGCAAAGAAAAATTTATTTCAGCAGAGA GATTTCTCATTGCCACTGGTAAAGACCACGTTACTTGGGCATCCCTGGTGACAAAGAAT ACTGCATCAGCAGTGATGATCTTTCTCCTTGCCTTACTGCCGGGTAAGANCCTGGGTT GGTGGANCATCCTATGTCGCTTTGGAGTGCCTGGATTTCTTGGTATTGGNTTAAAC GTCACTGTATNGGTTANGGCCATTCTCTTAAAGGATTGG
Restriction Sites:	NotI-NotI
ACCN:	NM_182743
Insert Size:	4100 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:	<ol style="list-style-type: none">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_182743.1 , NP_877420.1
RefSeq Size:	3576 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 (3) lacks a 5' non-coding exon; therefore, has a shorter 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).