

Product datasheet for **RC202040**

TXNRD1 (NM_003330) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TXNRD1 (NM_003330) Human Tagged ORF 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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ORF Nucleotide Sequence:

>RC202040 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAACGGCCCTGAAGATCTTCCAAGTCTATGACTATGACCTTATCATCATTGGAGGTGGCTCAGGAG
 GTCTGGCAGCTGCTAAGGAGGCAGCCCAATATGGCAAGAAGTGATGGTCTGGACTTTGCTCACTCCCAC
 CCCTCTTGGAACTAGATGGGGTCTTGGAGGAACATGTGTGAATGTGGGTTGCATACCTAAAAAACTGATG
 CATCAAGCAGCTTTGTTAGGACAAGCCCTGCAAGACTCTCGAAATTATGGATGGAAAGTCGAGGAGACAG
 TTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAGAATCACATTGGCTCTTTGAATTGGGGCTACCG
 AGTAGCTCTCGGGGAGAAAAAGTCGTCTATGAGAATGCTTATGGCAATTTATTGGTCTCACAGGATT
 AAGGCAACAAATAATAAGGCAAAGAAAAATTTATTCAGCAGAGAGATTCTCATTGCCACTGGTGAAA
 GACCACGTTACTTGGGCATCCCTGGTGACAAAGAATACTGCATCAGCAGTGATGATCTTTCTCCTTGCC
 TTAGTCCCGGTAAGACCCTGGTTGTTGGAGCATCCTATGTCGCTTTGGAGTGCCTGGATTTCTTGCT
 GGTATTGGTTTAGACGCTCACTGTTATGGTTAGGTCATTCTTCTTAGAGGATTTGACCAGGACATGGCCA
 ACAAATTTGGTGAACACATGGAAGAACATGGCATCAAGTTTATAAGACAGTTCGTACCAATTAAGTTGA
 ACAAATTTGAAGCAGGGACACCAGGCCGACTCAGAGTAGTAGCTCAGTCCCAATAGTGAGGAAATCATT
 GAAGGAGAATAATAACGGTGATGCTGGCAATAGGAAGAGATGCTTGACAAGAAAAATTTGGCTTAGAAA
 CCGTAGGGGTGAAGATAAATGAAAAGACTGAAAAATACCTGTACAGATGAAGAACAGACCAATGTGCC
 TTACATCTATGCCATTGGCGATATTTGGAGGTAAGGTGGAGCTCACCCAGTTGCAATCCAGGCAGGA
 AGATTGCTGGCTCAGAGGCTCTATGCAGGTTCCACTGTCAAGTGTGACTATGAAAATGTTCAACCACTG
 TATTTACTCTTTGGAATATGGTGCTTTGGCCCTTTCTGAGGAGAAAGCTGTGGAAAGTTTGGGGAAG
 AAATATTGAGGTTTACCATAGTTACTTTTGGCCATTGGAATGGACGATTCGTCAGAGATAACAACAAA
 TGTTATGCAAAAATAATCTGTAATACTAAAGACAATGAACGTGTTGTGGGCTTTCACGACTGGGTCCAA
 ATGCTGGAGAAGTTACACAAGGCTTTCAGCTGCGCTCAAATGTGGACTGACAAAAAGCAGCTGGACAG
 CACAATTGGAATCCACCCTGTCTGTGCAGAGGATTACACAACATTGTCTGTGACCAAGCGCTCTGGGGCA
 AGCATCTCCAGGCTGGCTGCTGAGGT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAAGTTTAA

Protein Sequence:

>RC202040 protein sequence
 Red=Cloning site Green=Tags(s)

MNGPEDLPKSYDYDLIIIGGGSGGLAAAKEAAQYGKKVMVLDVFTPTPLGTRWGLGGTCVNVGCIPKMLM
 HQAALLGQALQDSRNYGWKVEETVKHDWDRMIEAVQNHIGSLNWGYRVALREKKVYENAYGQFIGPHRI
 KATNNKGKEKIYSAERFLIATGERPRYLIPGDKEYCISDDLFSLPYCPGKTLVVGASYVALECAFLA
 GIGLDVTVMVRSILLRFGDQDMANKIGEHEEHGKIFIRQFVPIKVEQIEAGTPGRLRVVAQSTNSEEII
 EGEYNTVMLAIGRDACTRKIGLETVGVKINEKTGKIPVTDEEQTNVPIYIYAIGDILEDKVELTPVAIQAG
 RLLAQRLYAGSTVKCDYENVPTTVFTPLEYGACGLSEEKAVEKFGREENIEVYHSYFWPLEWTIPSRDNNK
 CYAKIICNTKDNERVVG FHVLPNAGEVTQGFAAALKCGLTKKQLDSTIGIHPVCAEVFTTLSVTKRSGA
 SILQAGC*G

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6309_f09.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_003330

ORF Size: 1497 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#) 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_003330.1](#)

RefSeq Size: 4206 bp

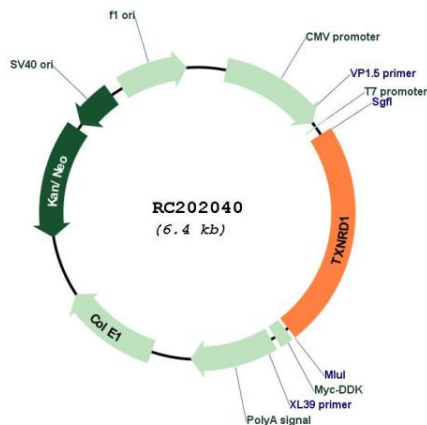
RefSeq ORF: 1656 bp

Locus ID: 7296

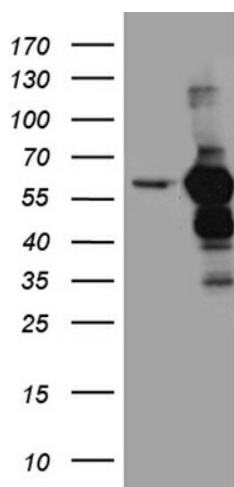
UniProt ID: [Q16881](#)
Cytogenetics: 12q23.3
Domains: pyr_redox, pyr_redox_dim
Protein Families: Druggable Genome
Protein Pathways: Pyrimidine metabolism

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]

Product images:



Circular map for RC202040



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY TXNRD1 (Cat# RC202040, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-TXNRD1 (Cat# [TA811366])(1:2000).