

Product datasheet for **RC216045**

TXNRD1 (NM_182729) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TXNRD1 (NM_182729) 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:

>RC216045 representing NM_182729
 Red=Cloning site Blue=ORF Green=Tags(s)

CTATAGGGCGGCCGGAATTCGTCTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGAACGGCCCTGAAGATCTTCCAAGTCTATGACTATGACCTTATCATCATTGGAGGTGGCTCAGGAG
 GTCTGGCAGCTGCTAAGGAGGCAGCCCAATATGGCAAGAAGGTGATGGTCTGGACTTTGTCACTCCCAC
 CCCTCTTGGAACTAGATGGGGTCTCGGAGGAACATGTGTGAATGTGGGTTGCATACCTAAAAAACTGATG
 CATCAAGCAGCTTTGTTAGGACAAGCCCTGCAAGACTCTCGAAATTATGGATGGAAGTCGAGGAGACAG
 TTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAGAATCACATTGGCTCTTTGAATTGGGGCTACCG
 AGTAGCTCTCGGGGAGAAAAAGTCGTCTATGAGAATGCTTATGGCAATTTATTGGTCTCACAGGATT
 AAGGCAACAAATAATAAGGCAAAGAAAAATTTATTCAGCAGAGAGATTTCTCATTGCCACTGGTGAAA
 GACCACGTTACTTGGGCATCCCTGGTGACAAAGAATACTGCATCAGCAGTGATGATCTTTCTCCTTGCC
 TTAGTCCCGGTAAGACCCTGGTTGTTGGAGCATCCTATGTCGCTTTGGAGTGCCTGGATTTCTTGCT
 GGTATTGGTTTAGACGCTACTGTTATGGTTAGGTCATTCTTCTTAGAGGATTTGACCAGGACATGGCCA
 ACAAATTTGGTGAACACATGGAAGAACATGGCATCAAGTTTATAAGACAGTTCGTACCAATTAAGTTGA
 ACAAATTTGAAGCAGGGACACCAGGCCGACTCAGAGTAGTAGCTCAGTCCCAATAGTGAGGAAATCATT
 GAAGGAGAATAATAACGGTGATGCTGGCAATAGGAAGAGATGCTTGACAAGAAAAATTTGGCTTAGAAA
 CCGTAGGGGTGAAGATAAATGAAAAGACTGAAAAATACCTGTACAGATGAAGAACAGACCAATGTGCC
 TTACATCTATGCCATTGGCGATATTTGGAGGTAAGGTGGAGCTCACCCAGTTGCAATCCAGGCAGGA
 AGATTGCTGGCTCAGAGGCTCTATGCAGGTTCCACTGTCAAGTGTGACTATGAAAATGTTCCAACCACTG
 TATTTACTCCTTTGGAATATGGTGCTTTGGCCCTTTCTGAGGAGAAAGCTGTGGAAAGTTTGGGGAAG
 AAATATTGAGGTTTACCATAGTTACTTTTGGCCATTGGAATGGACGATTCCGTCAAGAGATAACAACAAA
 TGTTATGCAAAAATAATCTGTAATACTAAAGACAATGAACGTGTTGTGGGCTTTCACGACTGGGTCCAA
 ATGCTGGAGAAGTTACACAAGGCTTTGCAGCTGCGCTCAAATGTGGACTGACAAAAAGCAGCTGGACAG
 CACAATTGGAATCCACCCTGTCTGTGCAGAGGTATTCACAACATTGTCTGTGACCAAGCGCTCTGGGGCA
 AGCATCTCCAGGCTGGCTGCTGAGGT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCTGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC216045 representing NM_182729
 Red=Cloning site Green=Tags(s)

MNGPEDLPKSYDYDLIIIGGGSGGLAAAKEAAQYGKKVMVLDVFTPTPLGTRWGLGGTCVNVGCIPKMLM
 HQAALLGQALQDSRNYGWKVEETVKHDWDRMIEAVQNHIGSLNWGYRVALREKKVYENAYGQFIGPHRI
 KATNNKGKEKIYSAERFLIATGERPRYLGI PGDKEYCISDDLFSLPYCPGKTLVVGASYVALECAFLA
 GIGLDVTVMVRSILLRFGDQDMANKIGEHEEHGKIFIRQFVPIKVEQIEAGTPGRLRVVAQSTNSEEII
 EGEYNTVMLAIGRDACTRKIGLETVGVKINEKTGKIPVTDEEQTNVPIIYAIGDILEDKVELTPVAIQAG
 RLLAQRLYAGSTVKCDYENVPTTVFTPLEYGACGLSEEKAVEKFGREENIEVYHSYFWPLEWTPSPRDNK
 CYAKIICNTKDNERVVG FHVLPNAGEVTQGF AAALKCGLTKKQLDSTIGIHPVCAEVFTTLSVTKRSGA
 SILQAGCUG

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6159_g05.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_182729

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_182729.3](#)

RefSeq Size: 3694 bp

RefSeq ORF: 1500 bp

Locus ID: 7296

UniProt ID: [Q16881](#)

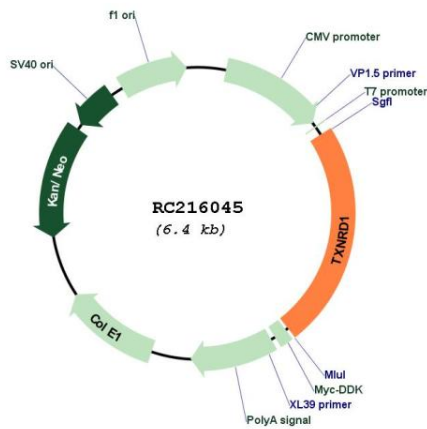
Cytogenetics: 12q23.3

Protein Families: Druggable Genome

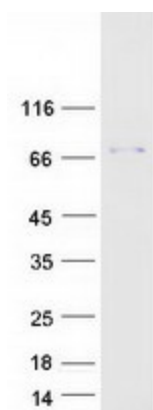
Protein Pathways: Pyrimidine metabolism

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]

Product images:



Circular map for RC216045



Coomassie blue staining of purified TXNRD1 protein (Cat# [TP316045]). The protein was produced from HEK293T cells transfected with TXNRD1 cDNA clone (Cat# RC216045) using MegaTran 2.0 (Cat# [TT210002]).