

## Product datasheet for **RG216263**

### **TXNRD1 (NM\_182743) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	TXNRD1 (NM_182743) Human Tagged ORF Clone
Symbol:	TXNRD1
Synonyms:	GRIM-12; TR; TR1; TRXR1; TXNR
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>RG216263 representing NM\_182743  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAACGGCCCTGAAGATCTTCCAAGTCTATGACTATGACCTTATCATCATTGGAGGTGGCTCAGGAG  
 GTCTGGCAGCTGCTAAGGAGGCAGCCCAATATGGCAAGAAGGTGATGGTCTGGACTTTGCTCACTCCCAC  
 CCCTCTTGGAAGTATAGTGGGTCTCGGAGGAACATGTGTGAATGTGGTGCATACCTAAAAAAGTATG  
 CATCAAGCAGCTTTGTTAGGACAAGCCCTGCAAGACTCTCGAAATATGGATGGAAGTTCGAGGAGACAG  
 TTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAGAATCACATTGGCTCTTTGAATTGGGGCTACCG  
 AGTAGCTCTCGGGGAGAAAAAGTCGTCTATGAGAATGCTTATGGCAATTTATTGGTCTCACAGGATT  
 AAGGCAACAAATAATAAGGCAAGAAAAATTTATTCAGCAGAGAGATTCTCATTGCCACTGGTGAAA  
 GACCACGTTACTTGGGCATCCCTGGTGACAAAGAATACTGCATCAGCAGTATGATCTTTCTCCTTGCC  
 TTAGTCCCGGTAAGACCCTGGTTGTTGGAGCATCTATGTCGCTTTGGAGTGCCTGGATTTCTTGCT  
 GGTATTGGTTTAGACGCTCACTGTTATGGTTAGGTCATTCTTCTTAGAGGATTTGACCAGGACATGGCCA  
 ACAAATTTGGTGAACACATGGAAGAACATGGCATCAAGTTTATAAGACAGTTCGTACCAATTAAGTTGA  
 ACAAATTTGAAGCAGGACACCAGGCCGACTCAGAGTAGTACTCAGTCCACCAATAGTGAGGAAATCATT  
 GAAGGAGAATAATAACGGTGTGCTGGCAATAGGAAGAGATGCTTGACAAGAAAAATTTGGCTTAGAAA  
 CCGTAGGGGTGAAGATAAATGAAAGACTGAAAAATACCTGTACAGATGAAGAACAGACCAATGTGCC  
 TTACATCTATGCCATTGGCGATATTTGGAGGTAAGGTGGAGCTCACCCAGTTGCAATCCAGGACGGA  
 AGATTGCTGGCTCAGAGGCTCTATGCAGGTTCCACTGTCAAGTGTGACTATGAAAATGTTCCAACCACTG  
 TATTTACTCCTTTGGAATATGGTCTTTGGCCCTTTCTGAGGAGAAAGCTGTGGAGAAGTTGGGGAAAG  
 AAATATTGAGGTTTACCATAGTTACTTTTGCCATTGGAATGGACGATTCCGTCAGAGATAACAACAAA  
 TGTTATGCAAAAATAATCTGTAATACTAAAGACAATGAACGTGTTGTGGGCTTTCACGACTGGGTCCAA  
 ATGCTGGAGAAGTTACACAAGGCTTTCAGCTGCGCTCAAATGTGGACTGACAAAAAGCAGCTGGACAG  
 CACAATTGGAATCCACCCTGTCTGTGCAGAGGATTACACAACATTGTCTGTGACCAAGCGCTCTGGGGCA  
 AGCATCTCCAGGCTGGCTGCTGAGGT

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG216263 representing NM\_182743  
 Red=Cloning site Green=Tags(s)

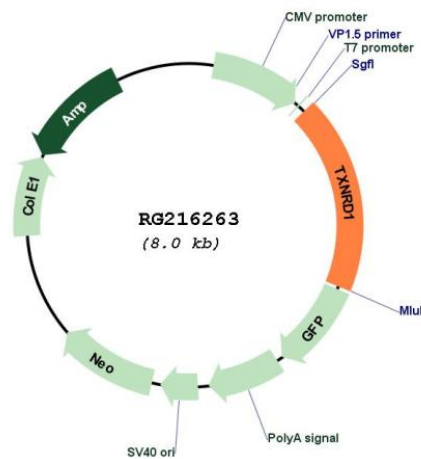
MNGPEDLPKSYDYDLIIIGGGSGGLAAAKEAAQYGKKVMVLDVFTPTPLGTRWGLGGTCVNVGCIPKMLM  
 HQAALLGQALQDSRNYGWKVEETVKHDWRMIEAVQNHIGSLNWGYRVALREKKVYENAYGQFIGPHRI  
 KATNNKGKEKIYSAERFLIATGERPRYLGIKPKKEYCISDDLFSLPYCPGKTLVVGASYVALECAFLA  
 GIGLDVTVMVRSILLRGRFDQDMANKIGEHEEHGKIFIRQFVPIKVEQIEAGTPGRLRVVAQSTNSEEII  
 EGEYNTVMLAIGRDACTRKIGLETGVKINEKTGKIPVTDEEQTNVPIYIYIGDILEDKVELTPVAIQAG  
 RLLAQRLYAGSTVKCDYENVPTTFTPLEYGACGLSEEKAVEKFEENIEVYHSYFWPLEWTPSRDNNK  
 CYAKIICNTKDNERVVGFFHVLGPNAGEVTQGFAAALKCGLTKKQLDSTIGIHPVCAEVFTTSLVTKRSGA  
 SILQAGC\*G

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

**Plasmid Map:**

**ACCN:**

NM\_182743

**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.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_182743.3</a>
<b>RefSeq Size:</b>	3576 bp
<b>RefSeq ORF:</b>	1500 bp
<b>Locus ID:</b>	7296
<b>UniProt ID:</b>	<a href="#">Q16881</a>
<b>Cytogenetics:</b>	12q23.3
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Pyrimidine metabolism
<b>Gene Summary:</b>	<p>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]</p>