

## Product datasheet for **RG216045**

### **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-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG216045 representing NM\_182729  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAACGGCCCTGAAGATCTTCCAAGTCTATGACTATGACCTTATCATCATTGGAGGTGGCTCAGGAG  
 GTCTGGCAGCTGCTAAGGAGGCAGCCCAATATGGCAAGAAGGTGATGGTCTGGACTTTGTCACTCCCAC  
 CCCTCTTGGAAGTATAGTGGGTCTCGGAGGAACATGTGTGAATGTGGGTTGCATACCTAAAAAACTGATG  
 CATCAAGCAGCTTTGTTAGGACAAGCCCTGCAAGACTCTCGAAATTATGGATGGAAGTCGAGGAGACAG  
 TTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAGAATCACATTGGCTCTTTGAATTGGGGCTACCG  
 AGTAGCTCTCGGGGAGAAAAAGTCGTCTATGAGAATGCTTATGGCAATTTATTGGTCTCACAGGATT  
 AAGGCAACAAATAATAAGGCAAAGAAAAATTTATTCAGCAGAGAGATTCTCATTGCCACTGGTGAAA  
 GACCACGTTACTTGGGCATCCCTGGTGACAAAGAATACTGCATCAGCAGTGATGATCTTTCTCCTTGCC  
 TTAAGTCCCGGTAAGACCCTGGTTGTTGGAGCATCCTATGTCGCTTTGGAGTGCCTGGATTTCTTGCT  
 GGTATTGGTTTAGACGCTCACTGTTATGGTTAGGTCATTCTTCTTAGAGGATTTGACCAGGACATGGCCA  
 ACAAATTTGGTGAACACATGGAAGAACATGGCATCAAGTTTATAAGACAGTTCGTACCAATTAAGTTGA  
 ACAAATTTGAAGCAGGACACCAGGCCGACTCAGAGTAGTAGCTCAGTCCACCAATAGTGAGGAAATCATT  
 GAAGGAGAATAATAACGGTGTGCTGGCAATAGGAAGAGATGCTTGACAAGAAAAATTTGGCTTAGAAA  
 CCGTAGGGGTGAAGATAAATGAAAAGACTGAAAAATACCTGTACAGATGAAGAACAGACCAATGTGCC  
 TTACATCTATGCCATTGGCGATATATTGGAGGTAAGGTGGAGCTCACCCAGTTGCAATCCAGGACGGA  
 AGATTGCTGGCTCAGAGGCTCTATGCAGGTTCCACTGTCAAGTGTGACTATGAAAATGTTCCAACCACTG  
 TATTTACTCCTTTGGAATATGGTCTTTGGCCCTTTCTGAGGAGAAAGCTGTGGAGAAGTTTGGGGAAGA  
 AAATATTGAGGTTTACCATAAGTTACTTTTGCCATTGGAATGGACGATTCCGTCAGAGATAACAACAAA  
 TGTTATGCAAAAAATAATCTGTAATACTAAAGACAATGAACGTGTTGTGGGCTTTCACGACTGGGTCCAA  
 ATGCTGGAGAAGTTACACAAGGCTTTCAGCTGCGCTCAAATGTGGACTGACAAAAAGCAGCTGGACAG  
 CACAATTGGAATCCACCCTGTCTGTGCAGAGGTATTCACAACATTGTCTGTGACCAAGCGCTCTGGGGCA  
 AGCATCTCCAGGCTGGCTGCTGAGGT

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG216045 representing NM\_182729  
 Red=Cloning site Green=Tags(s)

MNGPEDLPKSYDYDLIIIGGGSGGLAAAKEAAQYGKKVMVLDVFTPTPLGTRWGLGGTCVNVGCIPKLM  
 HQAALLGQALQDSRNYGWKVEETVKHDWDRMIEAVQNHIGSLNWGYRVALREKKVYENAYGQFIGPHRI  
 KATNNKGKEKIYSAERFLIATGERPRYLGIKPGDKEYCISDDLFSLPYCPGKTLVVGASYVALECAGFLA  
 GIGLDVTVMVRSILLRFGDQDMANKIGEHEEHGKIFIRQFVPIKVEQIEAGTPGRLRVVAQSTNSEII  
 EGEYNTVMLAIGRDACTRKIGLETVGKINEKTGKIPVTDEEQTNVPIYIYIGDILEDKVELTPVAIQAG  
 RLLAQRLYAGSTVKCDYENVPTTVFTPLEYGACGLSEEKAVEKFGREENIEVYHSYFWPLEWTIPSRDNNK  
 CYAKIICNTKDNERVVGPHVLPNAGEVTQGFAAALKCGLTKKQLDSTIGIHPVCAEVFTTSLVTKRSGA  
 SILQAGC\*G

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

**ACCN:**

NM\_182729

**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

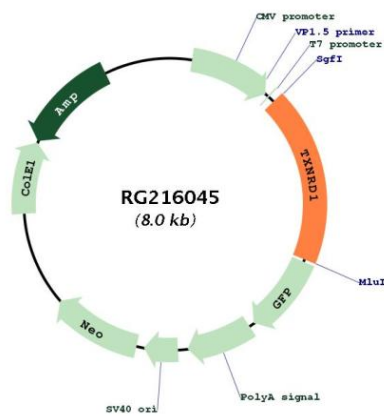
**Locus ID:**

7296

**UniProt ID:**
[Q16881](#)

<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>

### Product images:



Circular map for RG216045