

## Product datasheet for **RC232789**

### **TXNRD1 (NM\_001261446) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	TXNRD1 (NM_001261446) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	TXNRD1
Synonyms:	GRIM-12; TR; TR1; TRXR1; TXNR
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide  
Sequence:

>RC232789 representing NM\_001261446  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCCGCATCGCC

ATGGTCCTGGACTTTGTCACTCCCACCCTCTTGGAACTAGATGGGGTCTCGGAGGAACATGTGTGAATG  
TGGTTGCATACCTAAAAACTGATGCATCAAGCAGCTTTGTTAGGACAAGCCCTGCAAGACTCTCGAAA  
TTATGGATGGAAGTTCGAGGAGACAGTTAAGCATGATTGGGACAGAATGATAGAAGCTGTACAGAATCAC  
ATTGGCTCTTTGAATTGGGGCTACCGAGTAGCTCTGCGGGAGAAAAAGTCGTCTATGAGAATGCTTATG  
GGCAATTTATTGGTCTCACAGGATTAAGGCAACAAATAAAGGCAAAGAAAAATTTTTCAGCAGA  
GAGATTTCTCATTGCCACTGGTAAAGACCACGTTACTTGGGCATCCCTGGTGACAAAGAATACTGCATC  
AGCAGTGATGATCTTTCTCCTTGCTTACTGCCCGGTAAAGCCCTGGTTGTTGGAGCATCCTATGTGC  
CTTTGGAGTGCCTGGATTTCTGCTGGTATTGGTTTAGACGTCAGTGTATGGTTAGGTCCATTCTTCT  
TAGAGGATTTGACCAGGACATGGCCAACAAAATGGTGAACACATGGAAGAACATGGCATCAAGTTTATA  
AGACAGTTCGTACCAATTAAGTTGAACAAATGAAGCAGGGACACCAGGCCGACTCAGAGTAGTAGCTC  
AGTCCACCAATAGTGAGGAAATCATTGAAGGAGAAATAAATACGGTGATGCTGGCAATAGGAAGAGATGC  
TTGCACAAGAAAAATGGCTTAGAAACCGTAGGGTGAAGATAAATGAAAAGACTGGAAAAATACCTGTC  
ACAGATGAAGAACAGACCAATGTGCCTTACATCTATGCCATTGGCGATATATTGGAGGATAAGGTGGAGC  
TCACCCAGTTGCAATCCAGGCAGGAAGATTGCTGGCTCAGAGGCTCTATGCAGTTCCACTGTCAAGTG  
TGACTATGAAAATGTTCCAACCACTGTATTTACTCCTTTGGAATATGGTGTCTGTGGCCTTTCTGAGGAG  
AAAGCTGTGGAGAAGTTGGGGAAGAAAATATTGAGGTTTACCATAGTTACTTTTGGCCATTGGAATGGA  
CGATTCGGTCAAGAGATAACAACAAATGTTATGCAAAAAATAATCTGTAATACTAAAGACAATGAACGTGT  
TGTGGGCTTTCACGTAAGTGGGTCCAAATGCTGGAGAAGTTACACAAGGCTTTGCAGCTGCGCTCAATGT  
GGACTGACCAAAAAGCAGCTGGACAGCACAATTGGAATCCACCCTGTCTGTGCAGAGGATTACACACAT  
TGCTGTGACCAAGCGCTCTGGGCAAGCATCCTCCAGGCTGGCTGCTGAGGT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

## Protein Sequence:

>RC232789 representing NM\_001261446  
Red=Cloning site Green=Tags(s)

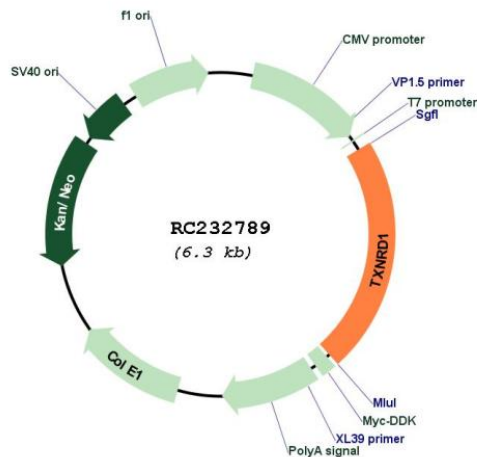
MVLDVFTPTPLGTRWGLGGTCVNVGCI PKKLMHQALLGQALQDSRNYGWKVEETVKHDWDRMIEAVQNH  
IGSLNWGYRVALREKKVYENAYGQFIGPHRIKATNKGKEKIYSAERFLIATGERPRYLGI PGDKEYCI  
SSDDLFSLPYCPGKTLVVGASYVALECAFLAGI GLDVTVMVRSILLRFGDQDMANKIGEHEEHGKIFI  
RQFVPIKVEQIEAGTPGRLRVVAQSTNSEEIIEGEYNTVMLAIGRDACTRKIGLETGKINEKTGKIPV  
TDEEQTNVPYIYIAGDILEDKVELTPVAIQAGRLLAQRLYAGSTVKCDYENVPTT VFTPLEYGACGLSEE  
KAVEKFGEENIEVYHSYFWPLEWTIPSRDNNKYAKI ICNTKDNERVVGFHVLGPNAGEVTQGF AAALKC  
GLTKKQLDSTIGIHPVCAEVFTTLSVTKRSGASILQAGC\*G

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

## Restriction Sites:

SgfI-MluI

**Cloning Scheme:**

**Plasmid Map:**


**ACCN:** NM\_001261446

**ORF Size:** 1383 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](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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\\_001261446.2](#)

**RefSeq Size:** 3846 bp

**RefSeq ORF:** 1386 bp

**Locus ID:** 7296

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

**Cytogenetics:** 12q23.3

**Protein Families:** Druggable Genome

**Protein Pathways:** Pyrimidine metabolism

**MW:** 51.3 kDa

**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]