

## Product datasheet for **MG226607**

### **Txnrd1 (NM\_001042523) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Txnrd1 (NM_001042523) Mouse Tagged ORF Clone
Symbol:	Txnrd1
Synonyms:	T; TR; TR1; Trx; TrxR1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG226607 representing NM\_001042523  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCCAGTTGATGACTGCTGGCTGACTTCCCAGCTTCTCGAGGTAGAACCTTTGTGCAGACTGTCTGGG  
 TGGCACCCACTTGCCCAACTGTTGCTGGTTTCCAGTTTTCTCCCTCCAGTCCCCCGGCCACCACATGT  
 GCCCGTGTGCTGCTGAGGGGCCCTCGTGGGGCTGTGCTTCTGCTTACGTCCCTCCAAGACACTCCCC  
 TCCTCATCCCAGACGCCCTGTCTACTGACCCCTGTATCTGCCCTCCACCCTCCACACCTGATAGTAGGC  
 AGGAAAAAATACGCAATCTGAGCTGCCGAACAAAAAGGCCAATTCAAAGCTGCCAACAAATGAATGG  
 CTCAAAGATCCCCCTGGTCTATGACTTCGACCTGATCATCATTGGAGGAGGCTCAGGAGGACTGGCA  
 GCAGCTAAGGAGGCAGCCAAATTTGACAAGAAAGTGTGGTCTTGGATTTTGTACACCGACTCCTCTTG  
 GGACCAGATGGGGTCTCGGAGGAACGTGTGTAATGTGGGTTGCATACCTAAGAAGCTGATGCACCAGGC  
 AGCTTTGCTCGACAAGCTCTGAAAGACTCGCGCAACTATGGCTGAAAGTCAAGACACAGTGAAGCAT  
 GACTGGGAGAAAAATGACGGAATCTGTGCAGAGTACATCGGCTCGCTGAACTGGGGCTACCGCTAGCTC  
 TCCGGGAGAAAAAGTCTGTATGAGAATGCTTACGGGAGGTTTATTGGTCTCACAGGATTGTGGCGAC  
 AAATAACAAAGGTAAGAAAAATCTATTCAGCAGAGCGGTTCTCATCGCCACAGGTGAGAGGCCCCGC  
 TACCTGGGCATCCCTGGAGACAAAGAGTACTGCATCAGCAGTGATGATCTTTTCTCTTGCCTTACTGCC  
 CGGGGAAGACCCTAGTAGTTGGTGCATCCTATGTCGCCTTGAATGTGCAGGATTTCTGGCTGGTATCGG  
 CTTAGACGTCCTGTAATGGTGGGTCCATTCTCCTTAGAGGATTTGACCAAGACATGGCCAACAAAATC  
 GGTGAACACATGGAAGAACATGGTATCAAGTTTATAAGGCAGTTCGTCCAACGAAAAATGAACAGATCG  
 AAGCAGGAACACCAGGCCGACTCAGGGTACTGCTCAATCCACAACAGCAGGAGACCATAGAGGGCGCA  
 ATTTAACACAGTGTGCTGGCGGTAGGAAGAGATTCTTGTACGAGAATTTGGCTTAGAGACCGTGGGC  
 GTGAAGATAAACGAAAAAACCGAAAGATACCCGTCACGGATGAAGAGCAGACCAATGTGCCTTACATCT  
 ACGCCATCGGTGACATCCTGGAGGGGAAGCTAGAGCTGACTCCCGTAGCCATCCAGGCGGGGAGATTGCT  
 GGCTCAGAGGCTGTATGGAGGCTCCAATGTCAAATGTGACTATGACAATGTCCAACGACTGATTTACT  
 CCTTTGGAATATGGCTGTTGTGGCTCTCTGAAGAAAAAGCCGTAGAGAAATTTGGGGAAGAAAAATTG  
 AAGTTTACCATAGTTTCTTTGGCCATTGGAATGGACAGTCCCATCCCGGATAACAACAAATGTTATGC  
 AAAATAATCTGCAACCTTAAAGACGATGAACGTGTCGTTGGGCTCCACGTGCTGGTCCAACGCTGGA  
 GAGGTGACGCAGGGCTTTGCGGCTGCGCTCAAGTGTGGGCTGACTAAGCAGCAGCTGGACAGCACCATCG  
 GCATCCACCCGGTCTGTGCAGAGATATTCACAACGTTGTCAGTGACGAAGCGCTCTGGGGGAGACATCCT  
 CCAGTCTGGCTGCTGAGGT

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>MG226607 representing NM\_001042523  
 Red=Cloning site Green=Tags(s)

MPVDDCWLYFPASRGRFTVQTVVWVAPTCPNCCWFPGLPPVPRPPHVPRVLLRGPRGAVLPASRPSKTL  
 SSSQTPCPTDPCICPPPSTPDSRQEKNTQSELPNKKGQLQKLPMTMNGSKDPPGSYDFDLIIIGGSGGLA  
 AAKEAAKFDKKVLVLDVFTPTPLGTRWGLGGTCVNVGCIKPKLMHQALLGQALKDSRNYGKVEDTVKH  
 DWEKMTESVQSHIGSLNWGYRVALREKKVVYENAYGRFIGPHRIVATNNGKEKIYSAERFLIATGERPR  
 YLGIIPGDKKEYCISDDLFSLPYCPGKTLVVGASYVALECAAGFLAGIGLDVTVMVRSILLRQFDQDMANKI  
 GEHMEEHGKIFIRQFVPTKIEQIEAGTPGRLRVTAQSTNSEETIEGEFNTVLLAVGRDSCSTRITIGLETVG  
 VKINEKTGKIPVTDEEQTNVPYIYAIGDILEGKLELTPVAIQAGRLLAQRLYGGSNVKCDYDNVPTTVFT  
 PLEYGCCGLSEEKAVEKFGEENIEVYHSFFWPLEWTVPSRDNNKYAKIICNLKDDERVVGFHVLGPNAG  
 EVTQGFAAALKCGLTKQLDSTIGIHPVCAEIFTTLVTKRSGGDILQSGC\*G

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_001042523

**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\\_001042523.1](#), [NP\\_001035988.1](#)

**RefSeq Size:** 3634 bp

**RefSeq ORF:** 1842 bp

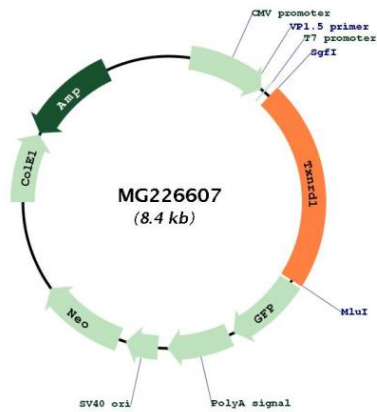
**Locus ID:** 50493

**UniProt ID:** [Q9JMH6](#)

**Cytogenetics:** 10 C1

**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. [provided by RefSeq, May 2017]

**Product images:**



Circular map for MG226607