

Product datasheet for **RR210733**

Txnrd1 (NM_031614) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Txnrd1 (NM_031614) Rat Tagged ORF Clone
Symbol:	Txnrd1
Synonyms:	Tr
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RR210733 representing NM_031614
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAATGACTCTAAAGATGCCCTAAGTCCTATGACTTCGACCTGATCATCATTGGAGGAGCTCGGGAG
 GCCTGGCGGCAGCTAAGGAGGCAGCCAAATTTGACAAGAAGGTGATGGTCTTGGACTTCGTACACCAAC
 TCCTCTCGGAACGAGATGGGGTCTCGGGGGAACGTGTGTGAACGTGGGCTGCATACCTAAAAAAGTATG
 CACCAGCGGCTCTGTTAGGACAAGCTCTGAAAGACTCACGCAACTATGGCTGGAAGTTCGAGGACACAG
 TTAAGCATGACTGGGAGAAAATGACAGAATCTGTGCAGAATCATATCGGCTCGCTGAACTGGGGCTACCG
 AGTAGCTCTCCGGGAGAAGAAGTTGTCTATGAGAATGCTTACGGGAAATTCATTGGTCTCACAAAATT
 ATGGCAACAAATAACAAAGGTAAGAAAAAGTTTACTCAGCAGAGCGGTTCTCATTGCCACCGGTGAAA
 GGCCGCGTACCTGGGCATCCCTGGAGACAAAGAGTACTGCATCAGCAGTACGATCTTTTCTCCTTGCC
 TTAGTCCCGGGGAAGACCCTAGTGGTTGGCGCTCCTATGTCGCCTTGGATGTGCAGGATTCCTGGCT
 GGTATCGGCCTCGACGCTACTGTAATGGTGCAGTCCATTCTCCTTAGAGGATTTGACCAGGACATGGCCA
 ACAAATTTGGTGAACACATGGAAGAGCATGGTATCAAGTTTATCAGGCAGTTCGTGCCGACGAAAATTGA
 ACAGATTGAAGCAGGGACACCAGGCCGACTCAAGGTGACCGCTAAGTCCACAAACAGTGAGGAGACCATA
 GAAGACGAATTTAACACAGTGTGCTTGCAGTAGGAAGAGATTCTGTACAAGAATATTGGCTTAGAGA
 CCGTGGCGTGAAGATCAATGAAAAGACCGGAAGATACCTGTACCGGATGAGGAGCAGACCAATGTGCC
 TTACATCTACGCCATTGGTGACATTCTGGAGGGGAAGCTGGAGCTGACCCCGTGGCCATCCAGGCGGGG
 AGATTGCTGGCTCAGAGGCTGTATGGCGGCTCCACTGTCAAATGTGACTATGACAATGTCCCAACGACTG
 TGTTTACTCCTTTGGAGTATGGCTGCTGGCCCTCTGAAGAAAAGCTGTAGAGAAAATTTGGGGAAGA
 AAATATTGAAGTTTACCACAGTTTCTTCTGGCCATTGGAATGGACAGTTCATCCCGGGATAACAACAAA
 TGTTATGCAAAAGTCGTCTGTAACCTTAAAGACAAACGAGTGTGTCGGGCTTCCACGACTGGGTCCAA
 ATGCTGGAGAGGTGACGCAGGGCTTGCAGCCGCACTCAAGTGCGGGCTGACCAAGCAGCAGCTGGACAG
 CACCATTGGCATCCACCGGTCTGTGCAGAGATATTTACAACGCTGTCGGTGACTAAGCGTTCTGGGGGA
 GACATCTCCAGTCTGGCTGCTGAGGT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RR210733 representing NM_031614
 Red=Cloning site Green=Tags(s)

MNDSKDAPKSYDFDLIIIGGSGGLAAAKEAAKFDKVMVLDVFTPTPLGTRWGLGGTCVNVGCIPKMLM
 HQAALLGQALKDSRNYGWKLEDTVKHDWEKMTESVQNHIGSLNWGYRVALREKKVYENAYGKFIGPHKI
 MATNNGKKEKVYSAERFLIATGERPRYLIGPDKEYCISDDLFSLPYCPGKTLVVGASYVALECAGFLA
 GIGLDVTVMVRSILLRFGDQDMANKIGEHEEHGKIFIRQFVPTKIEQIEAGTPGRLKVTAKSTNSEETI
 EDEFNTVLLAVGRDSCRTIGLETGVKINEKTGKIPVTDEEQTNVPIYIYAGDILEGKLELTPVAIQAG
 RLLAQRLYGGSTVKCDYDNVPTTFTPLEYGCCGLSEEKAVEKFEENIEVYHSFFWPLEWTVPSRDNNK
 CYAKVVCNLKDNERVVGFFHVLGPNAGEVTQGFAAALKCGLTKQQLDSTIGIHPVCAEIFTTLSVTKRSGG
 DILQSGC*G

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_031614

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_031614.3](#)

RefSeq Size: 3450 bp

RefSeq ORF: 1500 bp

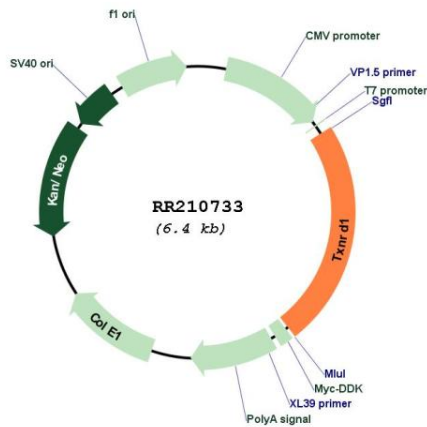
Locus ID: 58819

Cytogenetics: 7q13

MW: 54.6 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. [provided by RefSeq, Jun 2017]

Product images:



Circular map for RR210733