

Product datasheet for **RR217048**

Txnrd3 (NM_001184712) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Txnrd3 (NM_001184712) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Txnrd3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RR217048 representing NM_001184712
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

CTGGAGAAGCCACCGTCCCCGCCGCCCTCTCGGGCGCAAACCTCGCCTGGGCAGGGGAAGGCTGGAG
 TCGTCCCCAACCGCCGCTGGGTGCTGTCGTGGCGGCCCATGTGTCGCCACCGGCCCGCGCCCG
 CCTGACGTCCCCCGGGACCAGCCGCCCGCCGCTGAGGTCGCGAGGAGGTGCGGCGCCGCTGCGGGAT
 CTCATCGAGGGCAACAGGGTTATGATCTTCAGCAAGAGTTACTGTCCACACAGCTCGCGGGTTAAGGAAC
 TCTTTTCACTCTGGGAGTGAACATTACATCTGGAAC TTGATCAAGTTGATGATGGGGCAATGTTCA
 GGAAGTGTGACAGAAATCAGTAACCAGAAAACGGTGCCCAATATTTTTGTGAATAAAGTGCACGTGGGT
 GGATGTGACCGGATTTCCAGGCACATCAGAATGGTTTACTGCAGAAGCTCCTTCAGGATGACTCAACTC
 ATGATTATGATCTCATCGTCATCGGCGGGGCTCTGGCGGCTCTCTTGTCCAAGGAAGCTGCCAACTT
 GGGAAAGAAGGTCATGGTCTAGACTTTGTGGTCCCTCGCCTCAGGGCACGTCCTGGGGCCTTGGCGGC
 ACCTGTGTGAATGTAGGCTGTATCCCTAAGAAGCTGATGATCAGGCAGCCCTCTGGGGATGCTCTGC
 AAGATGCGAGGAAATATGGCTGGGATTATAACCAGCAGGTGAAGCACAACCTGGGAGACCATGAGGGAAGC
 GATCCAGAACCACATTGGCTCCTTGAAC TGGGGTACAGGGTAACTCTTCGGGAGAAAGGCGTGACCTAT
 GTCAACTCCTTCGGGGAGTTTGTGGAACGCATAAAAATAAAGGCAACCAATAAGAAAGGGCAGGAAACTT
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 GCCTGTCTCTTCTCGTGGCTTTGATCAAGAAATGGCAGAGAAAGTGGGATCCTACCTGGAACAACAAGG
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 TTGGCTGTGACTCCTGTACAAGGAAAATAGGGCTGGAGAAGATCGGGGTCAAAATCAATGAGAAGAATGG
 CAAAATACCAGTAAATGATGTGGAACAGACCAATGTGCCTCATGTTTATGCTATTGGGGACGTAAGGAG
 GGCAAACCAGAGCTCACACCTGTTGCCATACAGGCAGGCAAGCTGCTAGCTCGAAGACTCTTGGGATCT
 CTTTAGAAAAGTGTGATTACATTAACGTCCCAACAACGGTGTTCACACCTCTGGAATACGGCTGTTGTGG
 ACTGTCTGAAGAGAAAGCCATTGAAATGTATACGAAGGAGAATCTGGAAGTGTATCACACCTCTTTTGG
 CCTCTTGAGTGGACAGTTGCTGCGAGAGACAACAACACCTGTTATGCAAAGATAATCTGCAACAAATTTG
 ACAATGACCGTGTGATAGGATTTACCTCCTGGGGCCAAATGCTGGTGAAGTCACACAGGGGTTTGCAGC
 TGCAATGAAATGTGGCTTACGAAGCAGCTACTGGATGACACCATTGGAATCCACCCACCTGTGGTGAG
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ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR217048 representing NM_001184712
Red=Cloning site Green=Tags(s)

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LEKPPSPPPPRAQTSFGQKAGVVPNRRLGAVRGGLMSSPPGRRARLTSPGTSRPPAEVREEVRRRLRD
LIEGNRVMIFSKSYCPHSSRVKELFSSLGVNYYILELDQVDDGANVQEVLEISNQKTVPNIFVNVKVVHG
GCDRIFQAHQNGLLQKLLQDDSTHDYDLIVIGGSGGLSCAKEANLGGKVMVLDVVPSPQGTSWGLGG
TCVNVGCIKPKLMHQAALLGHALQDARKYGDYDYNQVKNHWETMREAIQNHIGSLNWGYRVTLREKGVTY
VNSFGEFVELHKIKATNKKQETFTYASKFVIATGERPRYLGIQGDKEYCITSDDLFSLPYCPGNTLIVG
ASYVGLECAGFLAGLGLDVTMVRVLLRQFDQEMAQKVSYLEQQGVKFORKFTPIVLVQLEKGLPGRRL
KVVAKSTEGPETVEGTYNTVLLAIGRDSCTRKIGLEKIGVKINEKNGKIPVNDVEQTNVPHVYAIGDVL
GKPELTPVAIQAGKLLARRLFISLEKCDYINVPTTVFTPLEYGCCGLSEEKAIEMTKENLEVYHTFFW
PLEWTVAGRDNNTCYAKIICNKFNDNRVIGFHLGPNAGEVTQGF AAMKCGLTKQLLDDITIGIHPTCGE
VFTTMEITKSSGLDITQKGC*G
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TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM_001184712

ORF Size: 1956 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_001184712.1](#), [NP_001171641.1](#)

RefSeq Size: 2799 bp

RefSeq ORF: 1959 bp

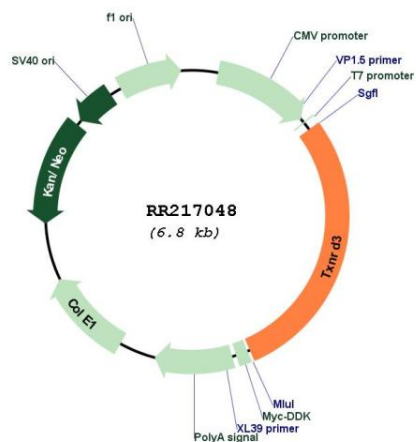
Locus ID: 297437

Cytogenetics: 4q34

MW: 71.6 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 the third TrxR, which unlike the other two isozymes, contains an additional N-terminal glutaredoxin (Grx) domain, and shows highest expression in testis. The Grx domain allows this isozyme to participate in both Trx and glutathione systems. It 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. There is evidence for two isoforms resulting from the use of a non-AUG (CUG), and an in-frame downstream AUG as translation initiation codons (PMID:20018845). [provided by RefSeq, Aug 2017]

Product images:



Circular map for RR217048