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Product datasheet for MR221635

Txnrd3 (NM_001178059) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Txnrd3 (NM_001178059) Mouse Tagged ORF Clone
Symbol:	Txnrd3
Synonyms:	AI196535; Tg; TGR; TR; TR2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

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ORF Nucleotide Sequence:

>MR221635 representing NM_001178059
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

CTGGAGAAGCCACCGTCCCCGCCGCCGCCTCCTCGGGCGCAGACCTCGCCCGGGCTGGGGAAGGTTGGAG
TCCTCCCCAACCGCCGCCTGGGTGCTGTCCGTGGCGGCCTCATGTCGTCGCCACCCGGCCGCCGCGCCCG
CCTGGCCTCCCCTGGGACCAGCCGCCCGTCTTCTGAGGCCCGCGAGGAGCTGCGGCGCCGCCTGCGGGAC
CTCATCGAGGGCAACAGGGTGATGATCTTCAGCAAGAGTTACTGTCCACACAGCACGCGGGTTAAGGAAC
TCTTTTCGTCCTTGGGAGTGGTCTATAACATCCTGGAACTTGATCAAGTTGATGACGGGGCCAGTGTTCA
GGAAGTGCTGACAGAAATCAGTAACCAGAAAACGGTGCCCAATATTTTTGTGAATAAAGTGCACGTGGGT
GGATGTGACCGAACTTTCCAGGCACATCAGAATGGTTTACTGCAGAAGCTCCTCCAAGATGACTCGGCTC
ATGATTACGACCTCATCATCATCGGCGGGGGTTCTGGCGGCCTCTCTTGTGCCAAGGAAGCTGCCAACTT
GGGAAAGAAGGTCATGGTGCTAGACTTTGTGGTCCCATCGCCTCAGGGCACGACCTGGGGCCTTGGCGGC
ACCTGTGTGAACGTAGGCTGTATTCCAAAGAAGCTGATGCATCAGGCAGCCCTCCTGGGGCATGCTTTGC
AAGATGCCAAGAAATATGGCTGGGAGTATAACCAGCAGGTGAAGCACAACTGGGAGGCCATGACAGAAGC
TATCCAGAGCCACATTGGCTCCTTGAACTGGGGCTACAGGGTAACCCTTCGGGAGAAAGGCGTGACCTAT
GTCAACTCCTTCGGGGAGTTTGTGGACCTGCATAAAATAAAGGTTCAACAGTTGGAGAAAGGTTTACCAG
GAAAATTGAAAGTCGTGGCTAAGTCCACCGAAGGACCGGAAACAGTAGAAGGGATATACAACACGGTTTT
GTTAGCAATTGGTCGTGACTCCTGTACAAGGAAAATAGGGCTGGAGAAGATCGGGGTCAAAATCAATGAG
AAGAATGGCAAAATACCAGTAAACGATGTGGAGCAGACCAACGTGCCTCATGTTTATGCTATTGGGGACA
TACTGGACGGCAAACCAGAGCTCACCCCCGTTGCCATACAGGCAGGCAAGCTGCTAGCTCGAAGACTCTT
TGGGGTCTCTTTAGAAAAGTGTGATTATATTAACATCCCAACAACGGTGTTCACACCTCTGGAATATGGC
TGTTGTGGACTGTCGGAAGAGAAAGCCATCGAAATGTATAAAAAAGAGAATCTGGAAGTGTATCACACCT
TGTTTTGGCCTCTCGAGTGGACAGTTGCTGGCAGAGACAACAACACCTGTTATGCAAAGATAATCTGCAA
CAAATTCGACAACGAACGTGTGGTGGGATTTCACCTTCTGGGGCCAAATGCTGGTGAAATCACGCAGGGA
TTTGCAGCTGCAATGAAATGTGGGCTCACGAAGCAGCTACTGGATGATACCATTGGAATCCACCCCACCT
GTGGTGAGGTATTCACAACATTGGAAATCACAAAGTCCTCAGGGCTGGACATTACTCAGAAAGGCTGCTG
AGGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

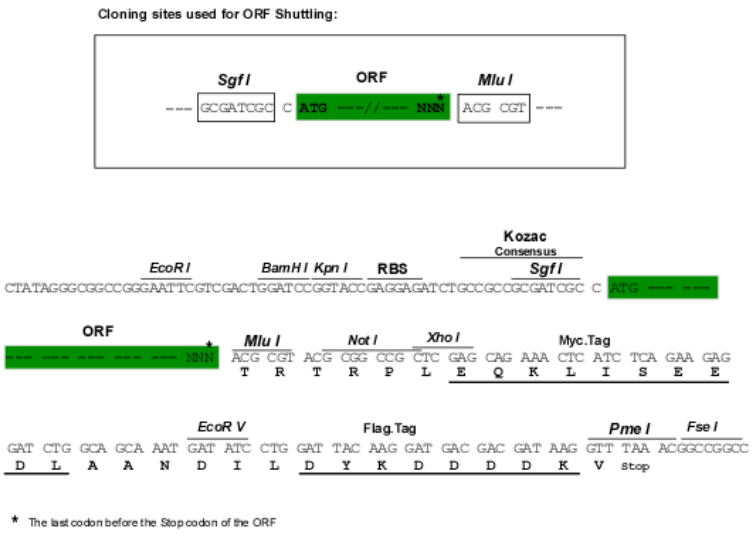
>MR221635 representing NM_001178059
Red=Cloning site Green=Tags(s)

LEKPPSPPPPPRAQTSPGLGKVGVLPNRRLGAVRGGLMSSPPGRRARLASPGTSRPSSEAREELRRRLRD
LIEGNRVMIFSKSYCPHSTRVKELFSSLGVVYNILELDQVDDGASVQEVLTEISNQKTVPNIFVNKVHVG
GCDRTFQAHQNGLLQKLLQDDSAHDYDLIIIGGGSGGLSCAKEAANLGKKVMVLDFVVPSPQGTTWGLGG
TCVNVGCIPKKLMHQAALLGHALQDAKKYGWEYNQQVKHNWEAMTEAIQSHIGSLNWGYRVTLREKGVTY
VNSFGEFVDLHKIKVQQLEKGLPGKLKVVAKSTEGPETVEGIYNTVLLAIGRDSCTRKIGLEKIGVKINE
KNGKIPVNDVEQTNVPHVYAIGDILDGKPELTPVAIQAGKLLARRLFGVSLEKCDYINIPTTVFTPLEYG
CCGLSEEKAIEMYKKENLEVYHTLFWPLEWTVAGRDNNTCYAKIICNKFDNERVVGFHLLGPNAGEITQG
FAAAMKCGLTKQLLDDTIGIHPTCGEVFTTLEITKSSGLDITQKGC*G

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001178059

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_001178059.1, NP_001171530.1

RefSeq Size: 2494 bp

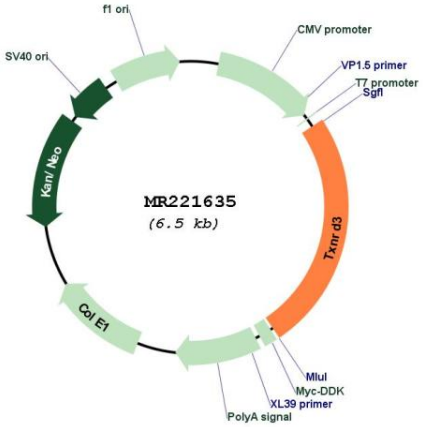
RefSeq ORF: 1617 bp

Locus ID: 232223

Cytogenetics: 6 D1

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 homoeostasis. 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. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. There is evidence for additional 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 MR221635