

Product datasheet for **RG220848**

TXNRD2 (NM_006440) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TXNRD2 (NM_006440) Human Tagged ORF Clone
Symbol:	TXNRD2
Synonyms:	GCCD5; SELZ; TR; TR-BETA; TR3; TRXR2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG220848 representing NM_006440
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCGCAATGGCGGTGGCGCTGCGGGGATTAGGAGGGCGCTTCCGGTGGCGGACGCAGGCCGTGGCGG
 CGGGGTGCGGGGCGCGCGGGGCGCAGCAGCAGGTACAGCGGACTATGATCTCCTGGTGGTCCGCGG
 GGGATCTGGTGGCTGGCTTGTGCCAAGGAGGCCGCCAGCTGGGAAGGAAGGTGGCCGTGGTGGACTAC
 GTGGAACCTTCTCCCAAGGCACCCGGTGGGGCTCGCGGCACCTGCGTCAACGTGGGCTGCATCCCCA
 AGAAGCTGATGCACCAGGCGGCACTGCTGGGAGGCCTGATCCAAGATGCCCCAACTATGGCTGGGAGGT
 GGCCAGCCCGTCCGCATGACTGGAGGAAGATGGCAGAAGCTGTTCAAATCACGTGAAATCCTTGAAC
 TGGGGCCACCGTGTCCAGCTTCAGGACAGAAAAGTCAAGTACTTAAACATCAAAGCCAGCTTTGTTGACG
 AGCACACGGTTTGCGGCTTGCCTAAAGTGGGAAAGAGATTCTGCTGTCAGCCGATCACATCATATTGC
 TACTGGAGGGCGCCGAGATACCCACGCACATCGAAGTGCCTTGAATATGGAATCACAAGTGTGATGAC
 ATCTTCTGGCTGAAGGAATCCCCTGGAAAAACGTTGGTGGTGGGGCCAGCTATGTGGCCCTGGAGTGTG
 CTGGCTTCTCACCGGGATTGGGCTGGACACCACCATCATGATGCGCAGCATCCCCCTCCGCGGCTTCGA
 CCAGCAAATGTCCTCCATGGTATAGAGACATGGCATCTCATGGCACCCGGTTCCTGAGGGGCTGTGCC
 CCCTCGCGGGTACAGGAGGCTCCCTGATGGCCAGCTGCAGGTACCTGGGAGGACAGCACCACCGCAAGG
 AGGACACGGGCACCTTTGACACCGTCTGTGGGCCATAGGTGAGTCCCAGACACCAGAAGTCTGAATTT
 GGAGAAGGCTGGGTAGATACTAGCCCCGACACTCAGAAGATCCTGGTGGACTCCCGGAAGCCACCTCT
 GTGCCCCACATCTACGCCATTGGTGACGTGGTGGAGGGCGGCCAGCTGACACCCATAGCGATCATGG
 CCGGGAGGCTCCTGGTGCAGCGGCTCTTCGGCGGGTCTCAGATCTGATGGACTACGACAATGTTCCAC
 GACCGTCTTACCCCGCTGGAGTATGGCTGTGTGGGGCTGCCGAGGAGGAGGCAGTGGCTCGCCACGCG
 CAGGAGCATGTTGAGGTCTATCACGCCATTATAAACCCTGGAGTTCACGGTGGCTGGACGAGATGCAT
 CCCAGTGTATGTAAGATGGTGTGCCTGAGGGAGCCCCACAGCTGGTGTGGGCTGCATTTCTTTGG
 CCCCAACGCGAGGCAAGTTACTCAAGGATTTGCTCTGGGGATCAAGTGTGGGGCTTCTATGCGCAGGTG
 ATGCGGACCGTGGGTATCCATCCACATGCTCTGAGGAGGTAGTCAAGCTGCGCATCTCCAAGCGCTCAG
 GCCTGGACCCACGGTACAGGCTGCTGAGGG

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG220848 representing NM_006440
 Red=Cloning site Green=Tags(s)

MAAMAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLLACAKEAAQLGRKVAVVDY
 VEPSPQGRWGLGGTCVNVGCIIPKLMHQALLGGLIQDAPNYGWEVAQPVPHDWRKMAEAVQNHVKS
 LNWGHRVQLQDRKVKYFNKASVDEHTVCGVAKGGKEILLADHIIATGGRPRYPHTHIEGALEYGITSDD
 IFWLKESPGKTLVVGASYVALECAFLTGIGLDTTIMMRSIPLRGFDQMQSSMVIEMASHGTRFLRGCA
 PSRVRRLLPDGQLQVTWEDSTTGKEDTGTFTVLWAIIGRVPDTRSLNLEKAGVDTSPDTQKILVDSRE
 ATSVPHIYAIIGDVVEGRPELTPIAIMAGRLLVQRLFGGSSDLMYDNPVPTTVFTPLEYGCVLSEEEA
 VARHGQEHVEVYHAHYKPLEFTVAGRDASQCYVKMVLREPPQLVLGLHFLGPNAGEVTVQGFALGIKCG
 SASYAQVMRTVGIHPTCSEEVVKLRIKSRSGLDPTVTGC*G

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_006440

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_006440.5](#)

RefSeq Size: 2180 bp

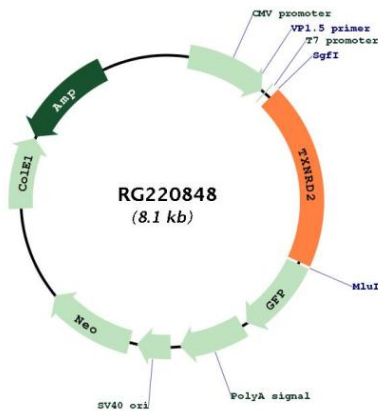
RefSeq ORF: 1575 bp

Locus ID: 10587

UniProt ID: [Q9NNW7](#)

Cytogenetics:	22q11.21
Domains:	pyr_redox, pyr_redox_dim
Protein Families:	Druggable Genome
Protein Pathways:	Pyrimidine metabolism
Gene Summary:	<p>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 a mitochondrial form important for scavenging reactive oxygen species in mitochondria. 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, including a few localized in the cytosol and some lacking the C-terminal Sec residue, have been found for this gene. [provided by RefSeq, Jun 2017]</p>

Product images:



Circular map for RG220848