

Product datasheet for **RC222449**

Thyroid Peroxidase (TPO) (NM_175719) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Thyroid Peroxidase (TPO) (NM_175719) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Thyroid Peroxidase
Synonyms:	MSA; TDH2A; TPX
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC222449 representing NM_175719
 Red=Cloning site Blue=ORF Green=Tags(s)

CTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCCGGCGC
 GCC

ATGAGAGCGCTCGCTGTGCTGTCTGTACGCTGGTTATGGCTGCACAGAAGCCTTCTCCCTTTCATCT
 CGAGAGGGAAAGAACTCCTTTGGGAAAGCCTGAGGAGTCTCGTGTCTAGCGTCTGGAGGAAAGCAA
 GCGCTGGTGGACACCGCATGTACGCCACGATGCAGAGAAACCTCAAGAAAAGAGGAATCCTTTCTCCA
 GCTCAGCTTGTCTTTTTCAAACCTCCTGAGCCAACAAGCGGAGTGATTGCCGAGCAGCAGAGATAA
 TGGAAACATCAATAACAAGCGATGAAAAGAAAAGTCAACCTGAAAACCAACAATCACAGCATCCAACGGA
 TGCTTTATCAGAAGATCTGCTGAGCATATTGCAAAATGTCTGGATGTCTCCCTTACATGCTGCCCCCA
 AAATGCCAAACACTTGCCTGGGAACAATAACAGGCCATCACAGGAGCTTGAACAACAGAGACCACC
 CCAGATGGGGCGCTCCAACACGGCCCTGGCACGATGGCTCCCTCCAGTCTATGAGGACGGCTTCAGTCA
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 CATGTCTTCAAGTTTCAAATGAGGTTGTACAGATGATGACCGTATTCTGACCTCCTGATGGCATGGG
 GACAATACATCGACCACGACATCGCGTTACACCACAGAGCACCAGCAAAGCTGCCTTCGGGGGAGGGGC
 TGACTGCCAGATGACTTGTGAGAACAAAACCATGTTTTCCATACAACCTCCCGAGGAGGGCCGGCCG
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 CCTGTGCGCCGAGCCCGCATCCCGGAGAGACCCGCGGCCCTGCTTCTGCGCCGAGACGCGCGCGC
 CAGCGAGTCCCCTCCCTGACGGCACTGCACACGCTGTGGCTGCCGAGACAACCGCTGGCCGCGCG
 CTAAGGCCCTCAATGCGCACTGGAGCGCGACGCGTGTACCAGGAGGCGCAAGGTCGTGGGCGCTC
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 GAGGGAGTCTGCGGCCGCTGCCTGCCTGGAGACCCCGCTGACCTGAGCACAGCCATCGCCAGCAGGAGC
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 AAAACTTCTCCAGGGCTCGGACAGGGCCCTGTTTGCTGTCTATTGGGAAGCAGATGAAGGCTCT
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 AAGCACTCCCTGTCTCGGTATCTGTGACAACACTGGCCTCACCAGGGTGCCATGGATGCCTTCCAAG
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 GAGTCTGGGAGGCGGTGCTGGTGTATTCTGCCGACGGGTATGAGCTCCAAGCCGGGAGCAGCTCA
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 AAGCACCAGGCGTAGGGACCTCACCGACGCGGCCGAGCTCAGGACTCGGAGCAGGAGAGTGTGGGA
 TGGAAGGCCGGGATACTCACAGGCTGCCGAGAGCCCTC

ACGGGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGA
 TTACAAGGATGACGACGATAAGGTTAA

Protein Sequence: >RC222449 representing NM_175719
 Red=Cloning site Green=Tags(s)

MRALAVLSVTLVMACTEAFPPFISRGKELLWGKPEESRVSSVLEESKRLVDTAMYATMQRNLKKGILSP
 AQLLSFSKLPPTSGVIARAAEIMETSIQAMKRKVNLTQQSQHPTDALSEDLLSIIANMSGCLPYMLPP
 KCPNTCLANKYRPITGACNNRDHPRWGASNTALARWLPVYEDGF SQPRGWNPGFLYNGFPLPPVREVTR
 HVIQVSNEVVTD DDDRYSDLLMAWGQYIDHDIAFTPQSTSKAAFGGGADCQMTCEQNPCFPIQLPEEARP
 AAGTACLPHYRSSAACGTGDQGFNLSTANPRQMQMGLTSFLDASTVYGSSPALERQLRNWTSAEGLL
 RVHARLRDGRAYLPFVPPRPAACAPEPGIPGETRGPCFLAGDGRASEVPSLTLHTLWLREHNRLAAA
 LKALNAHWSADAVYQEARVVGALHQIITLRDYIPRILGPEAFQYVGPYEGYDSTANPTVSNVSTAAF
 RFGHATIHPLVRRLDASFQEHDPDLPLWLHQAFFSPWTLRGGYNEWREFCGLPRLETPADLSTAIASRS
 VADKILDLYKHPDNIDVWLGGLAENFLPRARTGPLFACLIGKQMKALRDGDWFWWENSHVFTAQRRELE
 KHSLSRVICDNTGLTRVPMDFQVQKFPEDFESCDISITGMNLEAWRETFPQDDKCGFPESVENGDFVHCE
 ESGRRVLVYSCRHGVELQGREQLTCTQEGWDFQPPLCKDVNECADGAHPPCHASARCRNTKGGFQCLCAD
 PYELGDDGRTCVDSGRLPRVTWISMSLAALLIGGFAGLTSTVICRWTRTGTKSTLPISETGGGTPELRG
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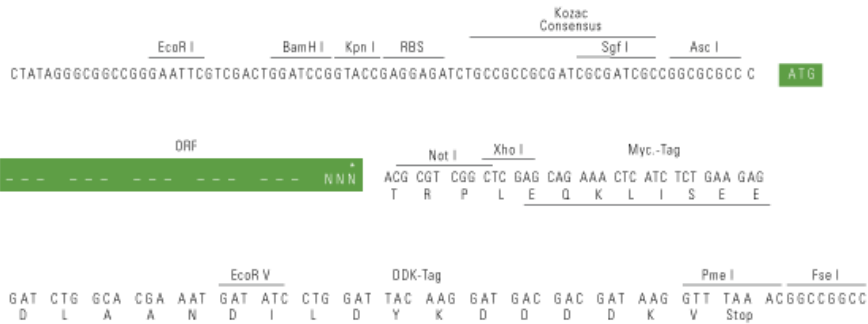
TRRL**E**Q**L**I**S**E**E**D**L**A**A**N**D**I**L**D**Y**K**D**D**D**D**K**V

Restriction Sites:

AscI-NotI

Cloning Scheme:

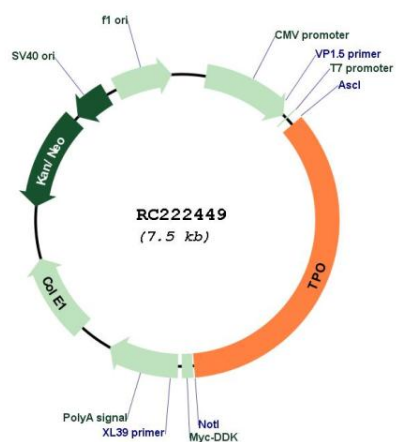
Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN:	NM_175719
ORF Size:	2628 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:	<ol style="list-style-type: none">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_175719.3 , NP_783650.1
RefSeq Size:	2981 bp
RefSeq ORF:	2631 bp
Locus ID:	7173
UniProt ID:	P07202
Cytogenetics:	2p25.3
Protein Families:	Druggable Genome, ES Cell Differentiation/IPS, Transmembrane
Protein Pathways:	Autoimmune thyroid disease, Cytokine-cytokine receptor interaction, Hematopoietic cell lineage, Jak-STAT signaling pathway, Metabolic pathways, Tyrosine metabolism
MW:	96.7 kDa
Gene Summary:	This gene encodes a membrane-bound glycoprotein. The encoded protein acts as an enzyme and plays a central role in thyroid gland function. The protein functions in the iodination of tyrosine residues in thyroglobulin and phenoxy-ester formation between pairs of iodinated tyrosines to generate the thyroid hormones, thyroxine and triiodothyronine. Mutations in this gene are associated with several disorders of thyroid hormonogenesis, including congenital hypothyroidism, congenital goiter, and thyroid hormone organification defect IIA. Multiple transcript variants encoding distinct isoforms have been identified for this gene, but the full-length nature of some variants has not been determined. [provided by RefSeq, May 2011]

Product images:



Circular map for RC222449