

Product datasheet for **RC222500**

Thyroid Peroxidase (TPO) (NM_175721) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Thyroid Peroxidase (TPO) (NM_175721) 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:

>RC222500 representing NM_175721
 Red=Cloning site Blue=ORF Green=Tags(s)

CTATAGGGCGGCCGGGAATTCGTCTGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCCGGCGC
 GCCC

ATGAGAGCGCTCGCTGTGCTGTCTGTACGCTGGTTATGGCCTGCACAGAAGCCTTCTCCCTTTCATCT
 CGAGAGGGAAAGAACTCCTTTGGGGAAAGCCTGAGGAGTCTCGTGTCTCTAGCGTCTGGAGGAAAGCAA
 GGCCTGGTGGACACCGCATGTACGCCACGATGCAGAGAAACCTCAAGAAAAGAGGAATCCTTTCTCCA
 GCTCAGCTTGTCTTTTTCAAACCTCTGAGCCAACAAGCGGAGTGATTGCCCGAGCAGCAGAGATAA
 TGGAAACATCAATAACAAGCGATGAAAAGAAAAGTCAACCTGAAAACCTCAACAATCACAGCATCCAACGGA
 TGCTTTATCAGAAGATCTGCTGAGCATCATTGCAAACATGTCTGGATGTCTCCCTTACATGCTGCCCCCA
 AAATGCCCAAACACTTGCCTGGCGAACAATACAGGCCCATCACAGGAGCTTGAACAACAGAGACCACC
 CCAGATGGGGCGCCTCCAACACGGCCCTGGCACGATGGTCCCTCCAGTCTATGAGGACGGCTTCAGTCA
 GCCCGAGGCTGGAACCCGGCTTCTTGTACAACGGGTTCCACTGCCCCGGTCCGGGAGGTGACAAGA
 CATGTCATTCAAGTTTCAAATGAGGTTGTACAGATGATGACCGTATTCTGACCTCCTGATGGCATGGG
 GACAATACATCGACCACGACATCGCGTTACACCACAGAGCACCAGCAAAGCTGCCTTCGGGGGAGGGGC
 TGACTGCCAGATGACTTGTGAGAACAAAACCCATGTTTTCCCATACAACCTCCCGGAGGAGGCCGGCCG
 GCCCGGGCACCAGCTGTCTGCCCTTCTACCGCTCTTCGGCCGCTGCGGCACCGGGGACCAAGGCGCGC
 TCTTTGGGAACCTGTCCACGGCAACCCGCGCAGCAGATGAACGGGTTGACCTCGTTCTGGACGCGTC
 CACCGTGTATGGCAGTCCCGGCCCTAGAGAGGCAGCTGCGGAACTGGACCAGTCCCGAAGGGCTGCTC
 CGCGTCCACGCGCGCCTCCGGGACTCCGGCCGCGCCTACCTGCCCTTCGTGCCCCACGCGCGCTGCGG
 CCTGTGCCCCGAGCCCGCATCCCCGGAGAGACCCCGGGCCCTGCTTCTGCGCGGAGACCGCCCGCGC
 CAGCGAGGTCCCCTCCCTGACGGCACTGCACACGCTGTGGCTGCGCGAGCACAACCGCTGGCCGCGGCG
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 TGCCCGGGCTGTGGCTGCACCAGGCTTCTTTCAGCCCATGGACATTACTCCGTGGAGGTGGTTTGGACCC
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 GGGCCGACGCTCAGGACTCGGAGCAGGAGTGTGGGATGGAAGGCCGGGATACTCACAGGCTGCCGAG
 AGCCCTC

ACGGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGA
 TTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC222500 representing NM_175721
Red=Cloning site Green=Tags(s)

MRALAVLSVTLVMACTEAFPPFISRGKELLWGKPEESRVSSVLEESKRLVDTAMYATMQRNLKKGILSP
 AQLLSFSKLPPTSGVIARAAEIMETSIQAMKRKVNLTQSQHPTDALSEDLLSIANMSGCLPYMLPP
 KCPNTCLANKYRPITGACNNRDHPRWGASNTALARWLPVYEDGF SQPRGWNPGFLYNGFPLPPVREVTR
 HVIQVSNVTVDDDRYSDLLMAWGQYIDHDIAFTPQSTSKAAFGGGADCQMTCEQNPCFPPIQLPEEARP
 AAGTACLPFYRSSAACGTGDQGFNLSTANPRQMQMGLTSFLDASTVYGSSPALERQLRNWTSAEGLL
 RVHARLRDGRAYLPFVPPRPAACAPEPGIPGETRGPCLAGDGRASEVPSLTALHTLWLREHNRLAAA
 LKALNAHWSADAVYQEARVVGALHQIITLRDYIPRILGPEAFQYVGPYEGYDSTANPTVSNVSTAAF
 RFGHATIHPLVRRLDASFQEHDPGLWLHQAFFSPWTLRGGGLDPLIRGLLARPAKLQVQDQLMNEEL
 TERL FVL SNSSTLDLASINLQRGRDHGLPGYNEWREFCGLPRLETPADLSTAIASRSVADKILDYKHPD
 NIDVWLGGLAENFLPRARTGPLFACLIGKQMKALRDGDWFWWENSHVFTDAQRRELEKHSLSRVICDNTG
 LTRVPMDAFQVGKFPEDFESCDSTIGMNL EAWRETFPQDDKCGFPESVENGDVFHCEESGRRLVYSCRH
 GYELQGREQLTCTQEGWDFQPPLCKDSGRLPRTWISMSLAALLIGGFAGLTSTVICRWTRTGKSTLPI
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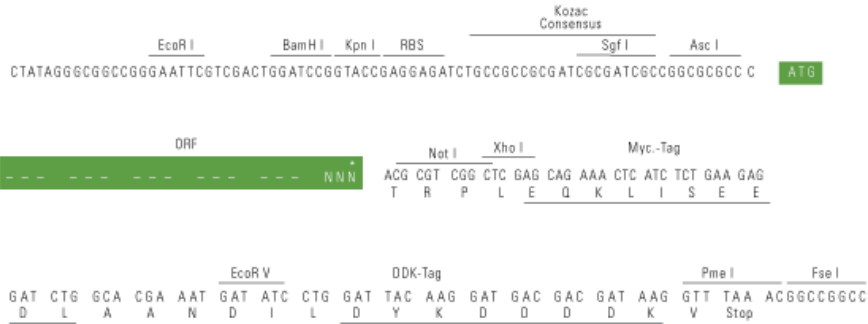
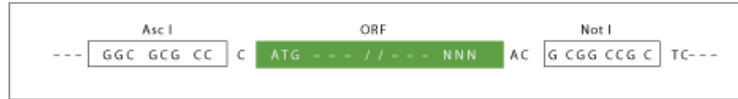
TRRLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

AscI-NotI

Cloning Scheme:

Cloning sites used for ORF Shuttling:

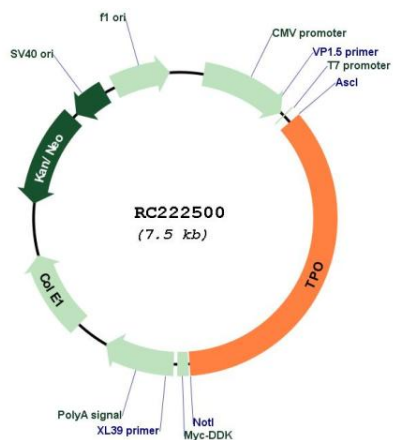


* The last codon before the Stop codon of the ORF

ACCN: NM_175721

ORF Size:	2667 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_175721.3 , NP_783652.1
RefSeq Size:	2930 bp
RefSeq ORF:	2670 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:	98.3 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 RC222500