

## Product datasheet for **RC235054**

### Thyroid Peroxidase (TPO) (NM\_001206744) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Thyroid Peroxidase (TPO) (NM_001206744) 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:**

>RC235054 representing NM\_001206744  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGAGCGCTGGCTGTGCTGTCTGTACGCTGGTTATGGCCTGCACAGAAGCCTTCTCCCTTCACT  
 CGAGAGGGAAAGAACTCCTTTGGGGAAAGCCTGAGGAGTCTCGTGTCTCTAGCGTCTGGAGGAAAGCAA  
 GCGCCTGGTGGACACCGCATGTACGCCACGATGCAGAGAAACCTCAAGAAAAGAGGAATCCTTTCTGCA  
 GCTCAGCTTGTCTTTTTCCAACTTCTGAGCCAACAAGCGGAGTGATTGCCCGAGCAGCAGAGATAA  
 TGGAAACATCAATAACAAGCGATGAAAAGAAAAGTCAACCTGAAAACCAACAATCACAGCATCCAACGGA  
 TGCTTTATCAGAAGATCTGCTGAGCATATTGCAAAATGTCTGGATGTCTCCCTTACATGCTGCCCCCA  
 AAATGCCCAAACACTTGCCTGGCGAACAATACAGGCCCATCACAGGAGCTTGAACAACAGAGACCACC  
 CCAGATGGGGCGCCTCCAACACGGCCCTGGCACGATGGCTCCCTCCAGTCTATGAGGACGGCTTCAGTCA  
 GCCCGAGGCTGGAACCCGGCTTCTTGTACAACGGGTTCCACTGCCCCGGTCCGGGAGGTGACAAGA  
 CATGTCTATTCAAGTTTCAAATGAGGTTGTACAGATGATGACCGTATTCTGACCTCTGATGGCATGGG  
 GACAATACATCGACCACGACATCGCGTTACACCACAGAGCACCAGCAAAGCTGCCTTCGGGGGAGGGGC  
 TGACTGCCAGATGACTTGTGAGAACAAAACCATGTTTTCCATACAACCTCCCGAGGAGGGCCCGCCG  
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 TCTTTGGGAACCTGTCCACGGCAACCCGCGCAGCAGATGAACGGGTTGACCTCGTTCTGGACGCGTC  
 CACCGTGTATGGCAGTCCCGGCCCTAGAGAGGCAGCTGCGGAACTGGACCAGTCCCGAAGGGCTGCTC  
 CGCGTCCACGCGCGCCTCCGGGACTCCGGCCGCGCCTACCTGCCCTTCGTGCCCCACGCGCGCTCGCG  
 CCTGTGCGCCCGAGCCCGCATCCCGGAGAGACCCCGGGCCCTGCTTCTGCGCGGAGAGCAGCCGCGC  
 CAGCGAGGTCCCCTCCCTGACGGCACTGCACACGCTGTGGCTGCGCGAGCACAACCGCTGGCCGCGCG  
 CTAAGGCCCTCAATGCGCACTGGAGCGCGACGCGGTGTACCAGGAGGCGCGAAGGTCGTGGCGCTC  
 TGCACCAGATCATCACCTGAGGGATTACATCCCAGGATCCTGGGACCCGAGGCCTTCCAGCAGTACGT  
 GGGTCCCTATGAAGGCTATGACTCCACCGCCAACCCCACTGTGTCCAACGTGTTCTCCACAGCCGCTTC  
 CGCTTCGGCCATGCCACGATCCACCCGCTGGTGGAGGAGTGGACGCCAGCTTCCAGGAGACCCCGACC  
 TGCCCGGGCTGTGGCTGCACCAGGCTTCTTTCAGCCCATGGACATTACTCCGTGGAGGTGGTTTGGACCC  
 ACTAATACGAGGCTTCTTGAAGACCAGCCAACTGCAGGTGCAGGATCAGCTGATGAACGAGGAGCTG  
 ACGGAAAGGCTCTTTGTGCTGTCCAATCCAGCACCTTGGATCTGGCGTCCATCAACCTGCAGAGGGGCC  
 GGGACCACGGGCTGCCAGGTTACAATGAGTGGAGGGAGTTCTGCGGCCTGCCTCGCTGGAGACCCCGC  
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 AACATCGATGTCTGGCTGGGAGGCTTAGCTGAAAACCTTCTCCCAAGGGCTCGGACAGGGCCCTGTTTG  
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 CTTACGGATGCACAGAGGCGTGAGCTGGAGAAGCACTCCCTGTCTCGGGTCACTGTGACAACACTGGC  
 CTCACCAGGTTGCCATGGATGCCTTCCAAGTCGGCAAATCCCCGAAGACTTTGAGTCTTGTGACAGCA  
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 CGTGGAGAATGGGACTTTGTGCACTGTGAGGAGTCTGGGAGGCGCGTGGTGTATTCTGCCGGCAC  
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 GCAAAGATGTGAACGAGTGTGCAGACGGTGCACCCCCCTGCCACGCCTTGCAGGAGTGCAGAAACAC  
 CAAAGGCGGCTTCCAGTGTCTCTGCGCGGACCCCTACGAGTTAGGAGACGATGGGAGAACCTGCGTAGAC  
 TCCGGGAGGCTCCCTCGGGTACTTGGATCTCCATGTCGCTGGCTGCTCTGCTGATCGGAGGCTTCGAG  
 GTCTCACCTCGACGGTATTTGCAGGTGGACACGCACTGGCACTAAATCCACACTGCCATCTCGGAGAC  
 AGGCGGAGGAACTCCCGAGCTGAGATGCGGAAAGCACCAGGCCGTAGGGACCTCACCGAGCGGGCCGCA  
 GCTCAGGACTCGGAGCAGGAGAGTGTGGGATGGAAGGCCGGGATACTCACAGGCTGCCAGAGCCCTC

**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGA**  
**TTACAAGGATGACGACGATAAGGTTTAA**

**Protein Sequence:** >RC235054 representing NM\_001206744  
 Red=Cloning site Green=Tags(s)

MRALAVLSVTLVMACTEAFPPFISRGKELLWGKPEESRVSSVLEESKRLVDTAMYATMQRNLKRGILSA  
 AQLLSFSKLPPTSGVIARAAEIMETSIQAMKRKVNKKTQQSQHPTDALSEDLLSIANMSGCLPYMLPP  
 KCPNTCLANKYRPITGACNNRDHPRWGASNTALARWLPVYEDGF SQPRGWNPGFLYNGFLLPPVREVTR  
 HVIQVSNVTVDDDRYSDLLMAWGQYIDHDIATPQSTSKAAFGGGADCQMTCEQNPCFPIQLPEEARP  
 AAGTACLPFYRSSAACGTGDQGFNLSTANPRQMQMGLTSFLDASTVYGSSPALERQLRNWTSAEGLL  
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 LKALNAHWSADAVYQEARVVGALHQIITLRDYIPRILGPEAFQYVGPYEGYDSTANPTVSNVSTAAF  
 RFGHATIHPLVRRLDASFQEHDPDLPGLWLHQAFFSPWTLRGGGLDPLIRGLLARPAKLQVQDQLMNEEL  
 TERLFVLSNSSTLDLASINLQRGRDHGLPGYNEWREFCGLPRLETPADLSTAIASRSVADKILDLYKHPD  
 NIDVWLGGLAENFLPRARTGPLFACLIQKQMKALRDGDWFWWENSHVFTDAQRRELEKHSLSRVICDNTG  
 LTRVPMDAFQVGKFPEDFESCDSITGMNLEAWRETFPQDDKCGFPESVENGDVFHCEESGRRVLYVSCRH  
 GYELQGREQLTCTQEGWDFQPPLCKDVNECADGAHPPCHASARCRNTKGGFQCLCADPYELGDDGRCTVD  
 SGRLPRVTWISMSLAALLIGGFAGLTSTVICRWTRTGKSTLPISETGGGPELRCGKHQAVGTSPQRAA  
 AQDSEQESAGMEGRDTHRLPRAL

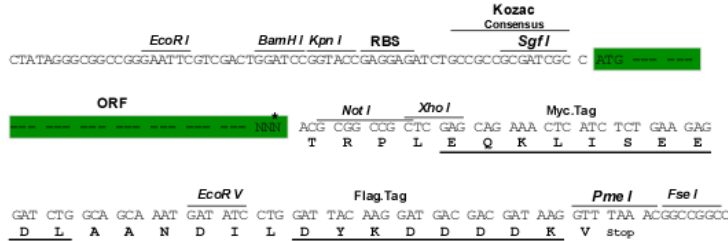
TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6798\\_d01.zip](https://cdn.origene.com/chromatograms/mk6798_d01.zip)

**Restriction Sites:** Sgfl-NotI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



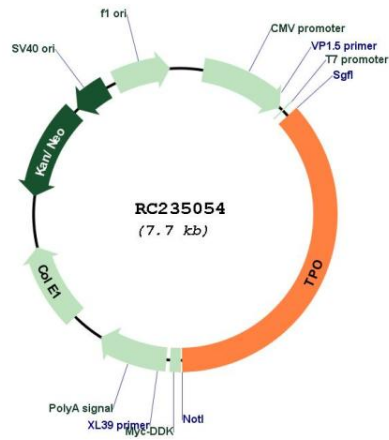
\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_001206744

**ORF Size:** 2799 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001206744.1</a> , <a href="#">NP_001193673.1</a>
<b>RefSeq Size:</b>	3151 bp
<b>RefSeq ORF:</b>	2802 bp
<b>Locus ID:</b>	7173
<b>UniProt ID:</b>	<a href="#">P07202</a>
<b>Cytogenetics:</b>	2p25.3
<b>Protein Families:</b>	Druggable Genome, ES Cell Differentiation/IPS, Transmembrane
<b>Protein Pathways:</b>	Autoimmune thyroid disease, Cytokine-cytokine receptor interaction, Hematopoietic cell lineage, Jak-STAT signaling pathway, Metabolic pathways, Tyrosine metabolism
<b>MW:</b>	102.9 kDa
<b>Gene Summary:</b>	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 RC235054