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Product datasheet for RC220611

Thyroid Peroxidase (TPO) (NM_175722) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Thyroid Peroxidase (TPO) (NM_175722) 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)

ORF Nucleotide Sequence:

>RC220611 representing NM_175722
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAGAGCGCTCGCTGTGCTGTCTGTCACGCTGGTTATGGCCTGCACAGAAGCCTTCTTCCCCTTCATCT
CGAGAGGGAAAGAACTCCTTTGGGGAAAGCCTGAGGAGTCTCGTGTCTCTAGCGTCTTGGAGGAAAGCAA
GCGCCTGGTGGACACCGCCATGTACGCCACGATGCAGAGAAACCTCAAGAAAAGAGGAATCCTTTCTCCA
GCTCAGCTTCTGTCTTTTTCCAAACTTCCTGAGCCAACAAGCGGAGTGATTGCCCGAGCAGCAGAGATAA
TGGAAACATCAATACAAGCGATGAAAAGAAAAGTCAACCTGAAAACTCAACAATCACAGCATCCAACGGA
TGCTTTATCAGAAGATCTGCTGAGCATCATTGCAAACATGTCTGGATGTCTCCCTTACATGCTGCCCCCA
AAATGCCCAAACACTTGCCTGGCGAACAAATACAGGCCCATCACAGGAGCTTGCAACAACAGAGACCACC
CCAGATGGGGCGCCTCCAACACGGCCCTGGCACGATGGCTCCCTCCAGTCTATGAGGACGGCTTCAGTCA
GCCCCGAGGCTGGAACCCCGGCTTCTTGTACAACGGGTTCCCACTGCCCCCGGTCCGGGAGGTGACAAGA
CATGTCATTCAAGTTTCAAATGAGGTTGTCACAGATGATGACCGCTATTCTGACCTCCTGATGGCATGGG
GACAATACATCGACCACGACATCGCGTTCACACCACAGAGCACCAGCAAAGCTGCCTTCGGGGGAGGGGC
TGACTGCCAGATGACTTGTGAGAACCAAAACCCATGTTTTCCCATACAAATCATCACCCTGAGGGATTAC
ATCCCCAGGATCCTGGGACCCGAGGCCTTCCAGCAGTACGTGGGTCCCTATGAAGGCTATGACTCCACCG
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GGTGAGGAGGCTGGACGCCAGCTTCCAGGAGCACCCCGACCTGCCCGGGCTGTGGCTGCACCAGGCTTTC
TTCAGCCCATGGACATTACTCCGTGGAGGTGGTTTGGACCCACTAATACGAGGCCTTCTTGCAAGACCAG
CCAAACTGCAGGTGCAGGATCAGCTGATGAACGAGGAGCTGACGGAAAGGCTCTTTGTGCTGTCCAATTC
CAGCACCTTGGATCTGGCGTCCATCAACCTGCAGAGGGGCCGGGACCACGGGCTGCCAGGTTACAATGAG
TGGAGGGAGTTCTGCGGCCTGCCTCGCCTGGAGACCCCCGCTGACCTGAGCACAGCCATCGCCAGCAGGA
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AGTCGGCAAATTCCCCGAAGACTTTGAGTCTTGTGACAGCATCACTGGCATGAACCTGGAGGCCTGGAGG
GAAACCTTTCCTCAAGACGACAAGTGTGGCTTCCCAGAGAGCGTGGAGAATGGGGACTTTGTGCACTGTG
AGGAGTCTGGGAGGCGCGTGCTGGTGTATTCCTGCCGGCACGGGTATGAGCTCCAAGGCCGGGAGCAGCT
CACTTGCACCCAGGAAGGATGGGATTTCCAGCCTCCCCTCTGCAAAGATGTGAACGAGTGTGCAGACGGT
GCCCACCCCCCCTGCCACGCCTCTGCGAGGTGCAGAAACACCAAAGGCGGCTTCCAGTGTCTCTGCGCGG
ACCCCTACGAGTTAGGAGACGATGGGAGAACCTGCGTAGACTCCGGGAGGCTCCCTCGGGTGACTTGGAT
CTCCATGTCGCTGGCTGCTCTGCTGATCGGAGGCTTCGCAGGTCTCACCTCGACGGTGATTTGCAGGTGG
ACACGCACTGGCACTAAATCCACACTGCCCATCTCGGAGACAGGCGGAGGAACTCCCGAGCTGAGATGCG
GAAAGCACCAGGCCGTAGGGACCTCACCGCAGCGGGCCGCAGCTCAGGACTCGGAGCAGGAGAGTGCTGG
GATGGAAGGCCGGGATACTCACAGGCTGCCGAGAGCCCTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

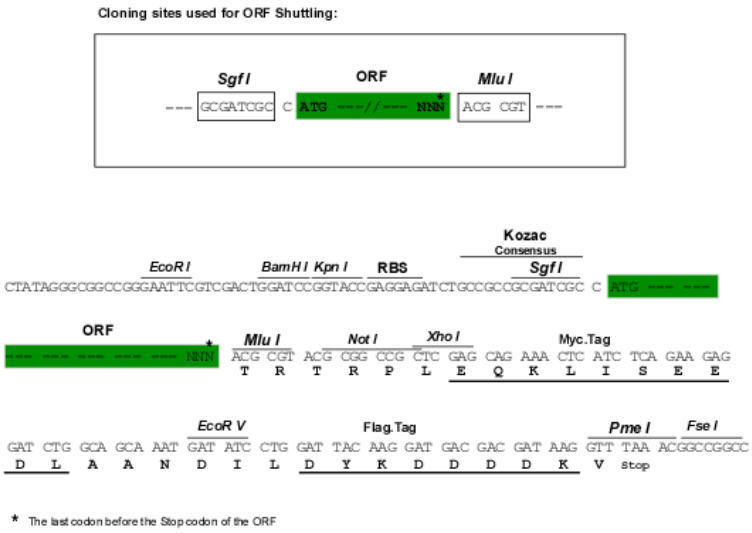
>RC220611 representing NM_175722
Red=Cloning site Green=Tags(s)

MRALAVLSVTLVMACTEAFFPFISRGKELLWGKPEESRVSSVLEESKRLVDTAMYATMQRNLKKRGILSP
AQLLSFSKLPEPTSGVIARAAEIMETSIQAMKRKVNLKTQQSQHPTDALSEDLLSIIANMSGCLPYMLPP
KCPNTCLANKYRPITGACNNRDHPRWGASNTALARWLPPVYEDGFSQPRGWNPGFLYNGFPLPPVREVTR
HVIQVSNEVVTDDDRYSDLLMAWGQYIDHDIAFTPQSTSKAAFGGGADCQMTCENQNPCFPIQIITLRDY
IPRILGPEAFQQYVGPYEGYDSTANPTVSNVFSTAAFRFGHATIHPLVRRLDASFQEHPDLPGLWLHQAF
FSPWTLLRGGGLDPLIRGLLARPAKLQVQDQLMNEELTERLFVLSNSSTLDLASINLQRGRDHGLPGYNE
WREFCGLPRLETPADLSTAIASRSVADKILDLYKHPDNIDVWLGGLAENFLPRARTGPLFACLIGKQMKA
LRDGDWFWWENSHVFTDAQRRELEKHSLSRVICDNTGLTRVPMDAFQVGKFPEDFESCDSITGMNLEAWR
ETFPQDDKCGFPESVENGDFVHCEESGRRVLVYSCRHGYELQGREQLTCTQEGWDFQPPLCKDVNECADG
AHPPCHASARCRNTKGGFQCLCADPYELGDDGRTCVDSGRLPRVTWISMSLAALLIGGFAGLTSTVICRW
TRTGTKSTLPISETGGGTPELRCGKHQAVGTSPQRAAAQDSEQESAGMEGRDTHRLPRAL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_175722

ORF Size: 2280 bp

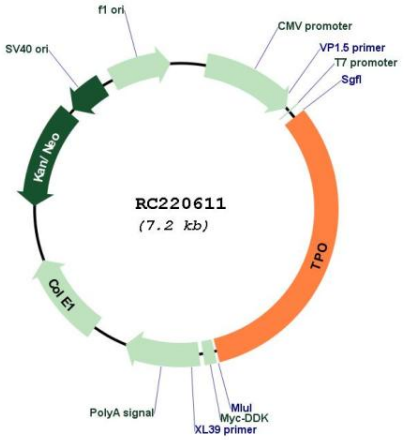
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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:	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_175722.3, NP_783653.1
RefSeq Size:	2543 bp
RefSeq ORF:	2283 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:	84.6 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 RC220611