

## Product datasheet for **RG220611**

### 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:	TurboGFP
Symbol:	TPO
Synonyms:	MSA; TDH2A; TPX
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide  
Sequence:

>RG220611 representing NM\_175722  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGCATCGCC**

ATGAGAGCGCTCGCTGTGCTGTCTGTACGCTGGTTATGGCCTGCACAGAAGCCTTCTCCCTTCATCT  
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GCGCCTGGTGGACACCGCCATGTACGCCACGATGCAGAGAAACCTCAAGAAAAGAGGAATCCTTTCTCCA  
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CATGTCTATTCAAGTTTCAAATGAGGTTGTACAGATGATGACCGTATTCTGACCTCTGATGGCATGGG  
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CCAAACTGCAGGTGCAGGATCAGCTGATGAACGAGGAGCTGACGGAAGGCTCTTTGTCTGTCCAATTC  
CAGCACCTTGGATCTGGCGTCCATCAACCTGCAGAGGGGCGGGACCACGGCTGCCAGGTTACAATGAG  
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ACCCCTACGAGTTAGGAGACGATGGGAGAACCTGCGTAGACTCCGGGAGGCTCCCTCGGGTACTTGGAT  
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ACACGCACTGGCACTAAATCCACTGCCATCTCGGAGACAGGCGGAGGAACTCCCGAGCTGAGATGCC  
GAAAGCACAGGCCGTAGGGACCTCACCGACGGGCGCAGCTCAGGACTCGGAGCAGGAGAGTGTCTGG  
GATGGAAGGCCGGGATACTCACAGGCTGCCGAGAGCCCTC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG220611 representing NM\_175722  
 Red=Cloning site Green=Tags(s)

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MRALAVLSVTLVMACTEAFPPFISRGKELLWGKPEESRVSSVLEESKRLVDTAMYATMQRNKKRGILSP
AQLLSFSKLPPTSGVIARAAEIMETSIQAMKRVNLKTQQSQHPTDALSEDLLSIANMSGCLPYMLPP
KCPNNTCLANKYRPITGACNNRDHPRWGASNTALARWLPVYEDGF SQPRGWNPGFLYNGFPLPPVREVTR
HVIQVSNEVVTD DDDRYSDLLMAWGQYIDHDIAFTPQSTSKAAFGGGADCQMTCEQNPCFPIQIITLRDY
IPRILGPEAFQQYVGPYEGYDSTANPTVSNVFSTAAFRFGHATIHPLVRRLDASFQEHDPDL PGLWLHQAF
FSPWTL LRGGLDPLIRGLLARPAKLQVQDQLMNEELTERLFVL SNSSTLDLASINLQRGRDHGLPGYNE
WREFCGLPRLETPADLSTAIASRSVADKILDLYKHPDNIDVWLGLAENFLPRARTGPLFACLIGKQMKAL
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AHP PCHASARCRNTKGGFQCLCADPYELGDDGRTCVDSGRLPRVTWISMSLAALLIGGFAGLTSTVICRW
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```

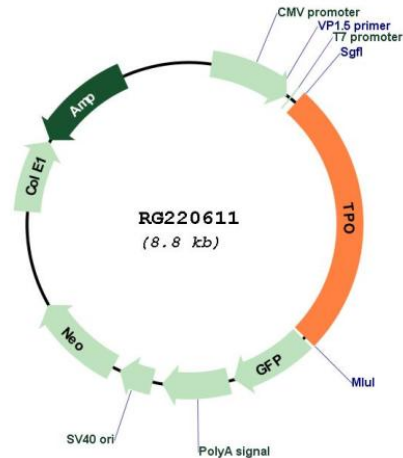
TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shutting:



**Plasmid Map:**


**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

<b>UniProt ID:</b>	<u>P07202</u>
<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>Gene Summary:</b>	<p>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]</p>