

## Product datasheet for **RG208589**

### Prothrombin (F2) (NM\_000506) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Prothrombin (F2) (NM_000506) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Prothrombin
Synonyms:	PT; RPRGL2; THPH1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG208589 representing NM\_000506  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGCAGTCCGAGGCTTGCAGCTGCCTGGCTGCCTGGCCCTGGCTGCCTGTGTAGCCTTGTGCACA  
 GCCAGCATGTGTTCTGGCTCCTCAGCAAGCACGGTCGCTGCTCCAGCGGTCCGGCGAGCCAACACCTT  
 CTTGGAGGAGGTGCGCAAGGGCAACCTGGAGCGAGAGTGCCTGGAGGAGACGTGCAGCTACGAGGAGGCC  
 TTCGAGGCTCTGGAGTCTCCACGGCTACGGATGTGTTCTGGCCAAGTACACAGCTTGTGAGACAGCGA  
 GGACGCCCTCGAGATAAGCTTGTGCATGTCTGGAAGGTAAGTGTGCTGAGGGTCTGGGTACGAACTACCG  
 AGGGCATGTGAACATCACCCGGTCAGGCATTGAGTGCCAGCTATGGAGGAGTCGTACCCACATAAGCCT  
 GAAATCAACTCCACTACCCATCTGGGGCCGACCTACAGGAGAATTTCTGCCGAACCCCGACAGCAGCA  
 CCACGGGACCCTGGTGTACACTACAGACCCACCGTGAGGAGGCAGGAATGCAGCATCCCTGTCTGTGG  
 CCAGGATCAAGTCACTGTAGCGATGACTCCACGCTCCGAAGGCTCCAGTGTGAATCTGTACCTCCATTG  
 GAGCAGTGTTCCTGATCGGGGCGAGCAGTACCAGGGGCGCCTGGCGGTGACCACACATGGGCTCCCT  
 GCCTGGCCTGGGCCAGCGCACAGGCCAAGGCCCTGAGCAAGCACCAGGACTTCAACTCAGCTGTGCAGCT  
 GGTGGAGAATTTCTGCCCAACCCAGACGGGATGAGGAGGGCGCGTGGTGTATGTGGCCGGGAAGCCT  
 GGCGACTTTGGTACTGCGACCTCAACTATTGTGAGGAGGCCGTGGAGGAGGAGACAGGAGATGGGCTGG  
 ATGAGGACTCAGACAGGGCCATCGAAGGGCGTACCGCCACCAAGTGTGAGTACCAGACTTTCTCAATCCGAG  
 GACCTTTGGCTCGGGAGAGGCAGACTGTGGCTGCGACCTCTGTTGAGAAGAAGTCGTTGGAGGACAAA  
 ACCGAAAGAGAGCTCCTGGAATCCTACATCGACGGGCGCATTGTGGAGGGCTCGGATGCAGAGATCGGCA  
 TGTCACCTTGGCAGGTGATGCTTTCCGGAAGAGTCCCCAGGAGCTGCTGTGTGGGGCCAGCCTCATCAG  
 TGACCCGCTGGGTCTCACCGCCGCCACTGCCTCCTGTACCCGCCCTGGGACAAGAACTTACCCGAGAAT  
 GACCTTCTGGTGCAGTGGCAAGCACTCCCGCACCAGGTACGAGCGAAACATTGAAAAGATATCCATGT  
 TGGAAAAGATCTACATCCACCCAGGTACAAGTGGCGGGAGAACCTGGACCGGGACATTGCCCTGATGAA  
 GCTGAAGAAGCCTGTTGCCTTCACTGACTACATTACCCTGTGTGTCTGCCCGACAGGGAGACGGCAGCC  
 AGCTTGTCCAGGCTGGATAAAGGGGCGGGTACAGGCTGGGGCAACCTGAAGGAGACGTGGACAGCCA  
 ACGTTGGTAAGGGGCGAGCCAGTGTCTGCAGGTGGTGAACCTGCCATTGTGGAGCGGCCGGTCTGCAA  
 GGACTCCACCCGGATCCGCATCACTGACAACATGTTCTGTGCTGGTTACAAGCCTGATGAAGGGAAACGA  
 GGGGATGCCTGTGAAGGTGACAGTGGGGACCCTTTGTGATGAAGAGCCCTTTAAACACCGCTGGTATC  
 AAATGGGCATCGTCTCATGGGGTGAAGGCTGTGACCGGGATGGGAAATATGGCTTCTACACACATGTGT  
 CCGCCTGAAGAAGTGGATACAGAAGTCAATGATCAGTTTGGAGAG

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG208589 representing NM\_000506  
 Red=Cloning site Green=Tags(s)

MAHVRGLQLPGCLALAALCSLVHSQHVFLAPQQARSLLRVRRANTFLEEVRKGNLERECVEETCSYEEA  
 FEALESSTATDVFWAKYTACETARTPRDKLAACLEGNCAEGLGTNYRGHVNI TRSGIECQLWRSRYPHKP  
 EINSTTHPGADLQENFCRNPDSSTTGPWCYTDDPTVRRQEC SIPVCGQDQVTAMTPRSEGSSVNLSPPL  
 EQCVPDRGQQYQRLAVTTHGLPCLAWASAQAKALSKHQDFNSAVQLVENFCRNPDGDEEGAWCYVAGKP  
 GDFGYCDLNYCEEAVEEETGDGLDESDRAIEGRTATSEYQTFNPRPTFGSGEADCLRPLFEKKSLEDK  
 TERELLESYIDGRIVEGSDAEIGMSPWQVMLFRKSPQELLCGASLISDRWVLTAAHCLLYPPWDKNFTEN  
 DLLVRI GKHSRTRYERNIEKISMLEKIYIHPRYNWRENDRDIALMKLKKPVAFSDYIHPVCLPDRETA  
 ALLQAGYKGRVTGWNLKETWTANVKGQPSVLQVYNLPIVERPCKDSTRIRITDNMFCAGYKPDGKRG  
 GDACEGDSGGPFVMSPFNNRWYQMGIVSWGEGCDRDGKYGFYTHVFRLLKWIQKVIDQFGE

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_000506

**ORF Size:** 1866 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\\_000506.2](#), [NP\\_000497.1](#)

**RefSeq Size:** 1997 bp

**RefSeq ORF:** 1869 bp

**Locus ID:** 2147

**UniProt ID:** [P00734](#)

**Cytogenetics:** 11p11.2

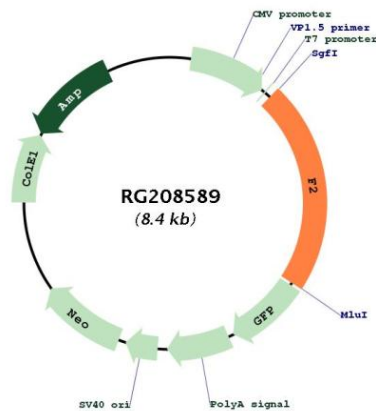
**Domains:** KR, GLA, Tryp\_SPc

**Protein Families:** Druggable Genome, Protease, Secreted Protein

**Protein Pathways:** Complement and coagulation cascades, Neuroactive ligand-receptor interaction, Regulation of actin cytoskeleton

**Gene Summary:** This gene encodes the prothrombin protein (also known as coagulation factor II). This protein is proteolytically cleaved in multiple steps to form the activated serine protease thrombin. The activated thrombin enzyme plays an important role in thrombosis and hemostasis by converting fibrinogen to fibrin during blood clot formation, by stimulating platelet aggregation, and by activating additional coagulation factors. Thrombin also plays a role in cell proliferation, tissue repair, and angiogenesis as well as maintaining vascular integrity during development and postnatal life. Peptides derived from the C-terminus of this protein have antimicrobial activity against *E. coli* and *P. aeruginosa*. Mutations in this gene lead to various forms of thrombosis and dysprothrombinemia. Rapid increases in cytokine levels following coronavirus infections can dysregulate the coagulation cascade and produce thrombosis, compromised blood supply, and organ failure. [provided by RefSeq, May 2020]

**Product images:**



Circular map for RG208589