

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**GCGATCGCC**

ATGGCGCAGTCCGAGGCTTGCAGCTGCCTGGCTGCCTGGCCCTGGCTGCCTGTGTAGCCTTGTGCACA
 GCCAGCATGTGTTCTGGCTCCTCAGCAAGCACGGTCGCTGCTCCAGCGGTCCGGCGAGCCAACACCTT
 CTTGGAGGAGGTGCGCAAGGGCAACCTGGAGCGAGAGTGCCTGGAGGAGACGTGCAGCTACGAGGAGGCC
 TTCGAGGCTCTGGAGTCTCCACGGCTACGGATGTGTTCTGGCCAAGTACACAGCTTGTGAGACAGCGA
 GGACGCCCTCGAGATAAGCTTGTGCATGTCTGGAAGGTAAGTGTGCTGAGGGTCTGGGTACGAACTACCG
 AGGGCATGTGAACATCACCCGGTCAGGCATTGAGTGCCAGCTATGGAGGAGTCGTACCCACATAAGCCT
 GAAATCAACTCCACTACCCATCTGGGGCCGACCTACAGGAGAATTTCTGCCGAACCCCGACAGCAGCA
 CCACGGGACCCTGGTGTACACTACAGACCCACCGTGAGGAGGCAGGAATGCAGCATCCCTGTCTGTGG
 CCAGGATCAAGTCACTGTAGCGATGACTCCACGCTCCGAAGGCTCCAGTGTGAATCTGTACCTCCATTG
 GAGCAGTGTGCCTGATCGGGGCGAGCAGTACCAGGGGCGCCTGGCGGTGACCACACATGGGCTCCCT
 GCCTGGCCTGGGCCAGCGCACAGGCCAAGGCCCTGAGCAAGCACCAGGACTTCAACTCAGCTGTGCAGCT
 GGTGGAGAATTTCTGCCCAACCCAGACGGGATGAGGAGGGCGCGTGGTGTATGTGGCCGGGAAGCCT
 GGCGACTTTGGTACTGCGACCTCAACTATTGTGAGGAGGCCGTGGAGGAGGAGACAGGAGATGGGCTGG
 ATGAGGACTCAGACAGGGCCATCGAAGGGCGTACCGCCACCAAGTACAGACTTTCTCAATCCGAG
 GACCTTTGGCTCGGGAGAGGCAGACTGTGGGCTGCGACCTCTGTTGAGAAGAAGTCGTTGGAGGACAAA
 ACCGAAAGAGAGCTCCTGGAATCCTACATCGACGGGCGCATTGTGGAGGGCTCGGATGCAGAGATCGGA
 TGTCACCTTGGCAGGTGATGCTTTCCGGAAGAGTCCCCAGGAGCTGCTGTGTGGGGCCAGCCTCATCAG
 TGACCCGCTGGGTCTCACCGCCGCCACTGCCTCCTGTACCCGCCCTGGGACAAGAAGTTCACCGAGAAT
 GACCTTCTGGTGCAGTGGCAAGCACTCCCGCACCAGGTACGAGCGAAACATTGAAAAGATATCCATGT
 TGGAAAAGATCTACATCCACCCAGGTACAAGTGGCGGGAGAACCTGGACCGGGACATTGCCCTGATGAA
 GCTGAAGAAGCCTGTTGCCTTCACTGACTACATTCACCTGTGTGTCTGCCCGACAGGGAGACGGCAGCC
 AGCTTGTCCAGGCTGGATAACAAGGGCGGGTACAGGCTGGGGCAACCTGAAGGAGACGTGGACAGCCA
 ACGTTGGTAAGGGGACAGCCAGTGTCTGCAGGTGGTGAACCTGCCATTGTGGAGCGGCCGGTCTGCAA
 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
 DLLVRIKHSRTRYERNIEKISMLEKIYIHPRYNWRENDRDIALMKLKKPVAFSDYIHPVCLPDRETA
 SLLQAGYKGRVTGWNLKETWTANVKGKQPSVLQVYVNLPIVERPCKDSTRIRITDNMFCAGYKPDGK
 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_000506.2](#), [NP_000497.1](#)

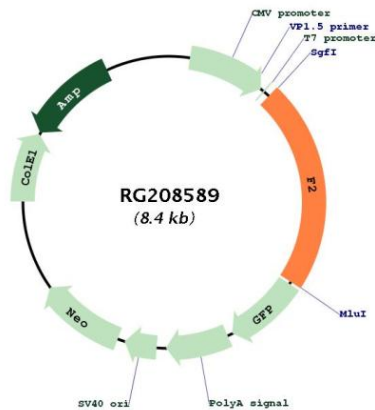
RefSeq Size: 1997 bp

RefSeq ORF: 1869 bp

Locus ID: 2147

UniProt ID:	<u>P00734</u>
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 <i>E. coli</i> and <i>P. aeruginosa</i> . 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