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Product datasheet for RC208589

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:	Myc-DDK
Symbol:	Prothrombin
Synonyms:	PT; RPRGL2; THPH1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC208589 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCGCACGTCCGAGGCTTGCAGCTGCCTGGCTGCCTGGCCCTGGCTGCCCTGTGTAGCCTTGTGCACA
GCCAGCATGTGTTCCTGGCTCCTCAGCAAGCACGGTCGCTGCTCCAGCGGGTCCGGCGAGCCAACACCTT
CTTGGAGGAGGTGCGCAAGGGCAACCTGGAGCGAGAGTGCGTGGAGGAGACGTGCAGCTACGAGGAGGCC
TTCGAGGCTCTGGAGTCCTCCACGGCTACGGATGTGTTCTGGGCCAAGTACACAGCTTGTGAGACAGCGA
GGACGCCTCGAGATAAGCTTGCTGCATGTCTGGAAGGTAACTGTGCTGAGGGTCTGGGTACGAACTACCG
AGGGCATGTGAACATCACCCGGTCAGGCATTGAGTGCCAGCTATGGAGGAGTCGCTACCCACATAAGCCT
GAAATCAACTCCACTACCCATCCTGGGGCCGACCTACAGGAGAATTTCTGCCGCAACCCCGACAGCAGCA
CCACGGGACCCTGGTGCTACACTACAGACCCCACCGTGAGGAGGCAGGAATGCAGCATCCCTGTCTGTGG
CCAGGATCAAGTCACTGTAGCGATGACTCCACGCTCCGAAGGCTCCAGTGTGAATCTGTCACCTCCATTG
GAGCAGTGTGTCCCTGATCGGGGGCAGCAGTACCAGGGGCGCCTGGCGGTGACCACACATGGGCTCCCCT
GCCTGGCCTGGGCCAGCGCACAGGCCAAGGCCCTGAGCAAGCACCAGGACTTCAACTCAGCTGTGCAGCT
GGTGGAGAACTTCTGCCGCAACCCAGACGGGGATGAGGAGGGCGCGTGGTGCTATGTGGCCGGGAAGCCT
GGCGACTTTGGGTACTGCGACCTCAACTATTGTGAGGAGGCCGTGGAGGAGGAGACAGGAGATGGGCTGG
ATGAGGACTCAGACAGGGCCATCGAAGGGCGTACCGCCACCAGTGAGTACCAGACTTTCTTCAATCCGAG
GACCTTTGGCTCGGGAGAGGCAGACTGTGGGCTGCGACCTCTGTTCGAGAAGAAGTCGCTGGAGGACAAA
ACCGAAAGAGAGCTCCTGGAATCCTACATCGACGGGCGCATTGTGGAGGGCTCGGATGCAGAGATCGGCA
TGTCACCTTGGCAGGTGATGCTTTTCCGGAAGAGTCCCCAGGAGCTGCTGTGTGGGGCCAGCCTCATCAG
TGACCGCTGGGTCCTCACCGCCGCCCACTGCCTCCTGTACCCGCCCTGGGACAAGAACTTCACCGAGAAT
GACCTTCTGGTGCGCATTGGCAAGCACTCCCGCACCAGGTACGAGCGAAACATTGAAAAGATATCCATGT
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GCTGAAGAAGCCTGTTGCCTTCAGTGACTACATTCACCCTGTGTGTCTGCCCGACAGGGAGACGGCAGCC
AGCTTGCTCCAGGCTGGATACAAGGGGCGGGTGACAGGCTGGGGCAACCTGAAGGAGACGTGGACAGCCA
ACGTTGGTAAGGGGCAGCCCAGTGTCCTGCAGGTGGTGAACCTGCCCATTGTGGAGCGGCCGGTCTGCAA
GGACTCCACCCGGATCCGCATCACTGACAACATGTTCTGTGCTGGTTACAAGCCTGATGAAGGGAAACGA
GGGGATGCCTGTGAAGGTGACAGTGGGGGACCCTTTGTCATGAAGAGCCCCTTTAACAACCGCTGGTATC
AAATGGGCATCGTCTCATGGGGTGAAGGCTGTGACCGGGATGGGAAATATGGCTTCTACACACATGTGTT
CCGCCTGAAGAAGTGGATACAGAAGGTCATTGATCAGTTTGGAGAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC208589 protein sequence
Red=Cloning site Green=Tags(s)

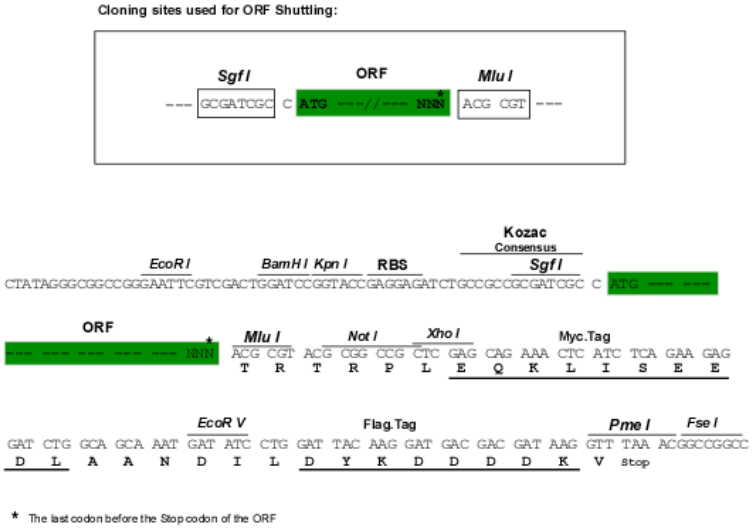
MAHVRGLQLPGCLALAALCSLVHSQHVFLAPQQARSLLQRVRRANTFLEEVRKGNLERECVEETCSYEEA
FEALESSTATDVFWAKYTACETARTPRDKLAACLEGNCAEGLGTNYRGHVNITRSGIECQLWRSRYPHKP
EINSTTHPGADLQENFCRNPDSSTTGPWCYTTDPTVRRQECSIPVCGQDQVTVAMTPRSEGSSVNLSPPL
EQCVPDRGQQYQGRLAVTTHGLPCLAWASAQAKALSKHQDFNSAVQLVENFCRNPDGDEEGAWCYVAGKP
GDFGYCDLNYCEEAVEEETGDGLDEDSDRAIEGRTATSEYQTFFNPRTFGSGEADCGLRPLFEKKSLEDK
TERELLESYIDGRIVEGSDAEIGMSPWQVMLFRKSPQELLCGASLISDRWVLTAAHCLLYPPWDKNFTEN
DLLVRIGKHSRTRYERNIEKISMLEKIYIHPRYNWRENLDRDIALMKLKKPVAFSDYIHPVCLPDRETAA
SLLQAGYKGRVTGWGNLKETWTANVGKGQPSVLQVVNLPIVERPVCKDSTRIRITDNMFCAGYKPDEGKR
GDACEGDSGGPFVMKSPFNNRWYQMGIVSWGEGCDRDGKYGFYTHVFRLKKWIQKVIDQFGE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6198_d04.zip

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.

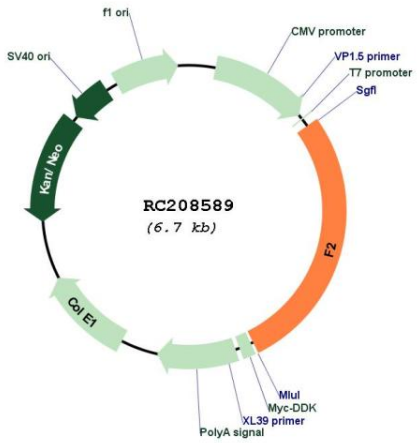
Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: NM_000506.5

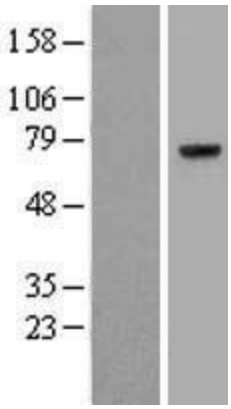
RefSeq Size: 2018 bp

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
MW:	70 kDa
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]

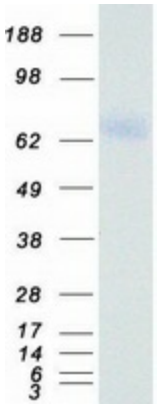
Product images:



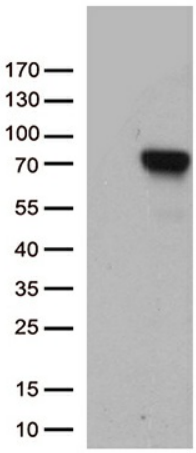
Circular map for RC208589



Western blot validation of overexpression lysate (Cat# [LY400182]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208589 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified F2 protein (Cat# [TP308589]). The protein was produced from HEK293T cells transfected with F2 cDNA clone (Cat# RC208589) using MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY F2 (Cat# RC208589, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-F2 (Cat# [TA812513])(1:500). Positive lysates [LY400182] (100ug) and [LC400182] (20ug) can be purchased separately from OriGene.