

## Product datasheet for **RC210966**

### Semaphorin 7a (SEMA7A) (NM\_003612) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Semaphorin 7a (SEMA7A) (NM_003612) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Semaphorin 7a
Synonyms:	CD108; CDw108; H-SEMA-K1; H-Sema-L; JMH; SEMAK1; SEMAL
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide  
Sequence:

>RC210966 ORF sequence  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCCGCATCGCC

ATGACGCCTCTCCGCCGGACGTGCCGCCCCAGCGCACCGCGCCCGCTCCCTGGCCCGCGGCTC  
GGTTGGGGCTTCCGCTGCGGCTGCGGCTGCTGCTGCTGCTGCTGGGCGGCCCGCCCTCCGCCAGGGCCA  
CCTAAGGAGCGGACCCCGCATCTTCGCCGTCTGGAAAGGCCATGTAGGGCAGGACCGGTGGACTTTGGC  
CAGACTGAGCCGCACACGGTGCTTTCCACGAGCCAGGCAGTCTCTGTGTGGTGGGAGGACGTGGCA  
AGGTCTACCTCTTTGACTTCCCCGAGGGCAAGAACGCATCTGTGCGCACGGTGAATATCGGCTCCACAAA  
GGGGTCTGTCTGGATAAGCGGGACTGCGAGAATACTACTCTCTGGAGAGGCGGAGTGAGGGGCTG  
CTGGCCTGTGGCACCACGCCCGCACCCAGCTGCTGGAACCTGGTGAATGGCACTGTGGTGCCACTTG  
GCGAGATGAGAGGCTACGCCCCCTCAGCCCGGACGAGAATACTCCCTGGTCTGTTTGAAGGGGACGAGGT  
GTATCCACCATCCGGAAGCAGGAATAAATGGGAAGATCCCTCGGTTCCGCCGATCCGGGGCGAGAGT  
GAGCTGTACACCAGTGATCTGTATGCAGAACCCACAGTTCATCAAAGCCACCATCGTGACCAAGACC  
AGGCTTACGATGACAAGATCTACTACTTCTTCCGAGAGGACAATCCTGACAAGAATCCTGAGGCTCCTCT  
CAATGTGTCCCCTGTGGCCAGTTGTGCAGGGGGACCAGGGTGGGGAAAGTTCACTGTCACTCTCCAAG  
TGGAACACTTTTCTGAAAGCCATGCTGGTATGCAGTGATGCTGCCACCAACAAGAACTTCAACAGGCTGC  
AAGACGTCTTCTGCTCCCTGACCCAGCGGCCAGTGGAGGGACACCAGGGTCTATGGTGTCTTCTCAA  
CCCCTGGAATACTCAGCCGTCTGTGTGATTCCTCGGTGACATTGACAAGGTCTTCCGTACCTCCTCA  
CTCAAGGGCTACCACTCAAGCCTCCCAACCCGCGCCCTGGCAAGTGCCTCCAGACCAGCAGCCGATAC  
CCACAGAGACCTCCAGGTGGCTGACCGTCACCCAGAGGTGGCGCAGAGGGTGGAGCCCATGGGGCCTCT  
GAAGACGCCATTGTTCCACTCTAAATACCACTACCAGAAAAGTGGCCGTCCACCGCATGCAAGCCAGCCAC  
GGGGAGACCTTTCATGTGCTTTACCTAACTACAGACAGGGGCACTATCCACAAGGTGGTGAACCGGGG  
AGCAGGAGCACAGCTTCGCCTTCAACATCATGGAGATCCAGCCCTTCCGCCGCGCGGCTGCCATCCAGAC  
CATGTCGCTGGATGCTGAGCGGAGGAAGCTGTATGTGAGCTCCAGTGGGAGGTGAGCCAGGTGCCCTG  
GACCTGTGTGAGGTCTATGGCGGGGCTGCCACGGTGCCTCATGTCCCGAGACCCTACTGCGGCTGGG  
ACCAAGGCCGCTGCATCTCCATCTACAGCTCCGAACGGTCACTGCTGCAATCCATTAATCCAGCCGAGCC  
ACACAAGGAGTGTCCCAACCCCAACCAGACAAGGCCCACTGCAGAAGGTTTCCCTGGCCCCAACTCT  
CGCTACTACCTGAGCTGCCCCATGGAATCCCGCCACGCCACTACTCATGGCGCCACAAGGAGAAGTGG  
AGCAGAGCTGCGAACCTGGTACCAGAGCCCCAAGTGCATCCTGTTCATCGAGAACCTCACGGCGCAGCA  
GTACGGCCACTACTTCTGCGAGGCCAGGAGGGCTCTACTTCCGCGAGGCTCAGCACTGGCAGCTGCTG  
CCCAGGACGGCATCATGGCCGAGCACCTGCTGGGTATGCCTGTGCCCTGGCCGCTCCCTCTGGCTGG  
GGGTGCTGCCCACTACTCTTGGCTTGTGTTCCAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC210966 protein sequence  
 Red=Cloning site Green=Tags(s)

MTPPPPGRAAPSAPRARVPGPPARLGLPLRLRLLLLLWAAAASAQGHLSRGRIFAVWKGHVQDRVDFG  
 QTEPHTVLFHEPGSSSVWVGGRGKVVYDFDFPEGKNASVRTVNIIGSTKGSCLDKRDCENYITLLERRSEGL  
 LACGTNARHPSCWNLVNGTVVPLGEMRGYAPFSPDENSLVLFEGDEVYSTIRKQYNGKIPRFRIRIGES  
 ELYTSDTYMQNPQFIKATIVHQDQAYDDKIYYFFREDNPDKNPEAPLNVSRAQLCRGDQGGESSLSVSK  
 WNTFLKAMLVCSDAATNKNFNRLQDVFLLPDPSGQWRDTRVYGVFVSNPWNYSAVCVYSLGDIKVFRTSS  
 LKGYHSSLPNRPGKCLPDQQPIPTETFQVADRHPEVAQRVEPMGPLKTPLFHSKYHYQKVAVHRMQASH  
 GETFHVLYLTDRGTIHKVVEPGEQEHSFAFNIMEIQPFRAAAIQTMSLDAERRKLYVSSQWEVSQVPL  
 DLCEVYGGGCHGCLMSRDPYCGWDQGRCSISYSSERSVLQSNPAEPHKECPNPKPKAPLQKQVSLAPNS  
 RYYLSCPMEsrHATYSWRHKENVEQSCEPHQSPNCILFIENLTAQQYGHYFCEAQEGSYFREAQHWQLL  
 PEDGIMAEHLLGHACALASLWLVLTLLGLLVH

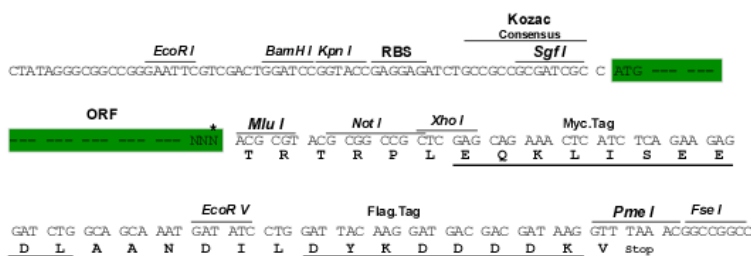
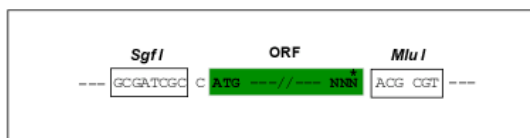
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6201\\_e05.zip](https://cdn.origene.com/chromatograms/mk6201_e05.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_003612

**ORF Size:** 1998 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\\_003612.5](#)

**RefSeq Size:** 3393 bp

**RefSeq ORF:** 2001 bp

**Locus ID:** 8482

**UniProt ID:** [O75326](#)

**Cytogenetics:** 15q24.1

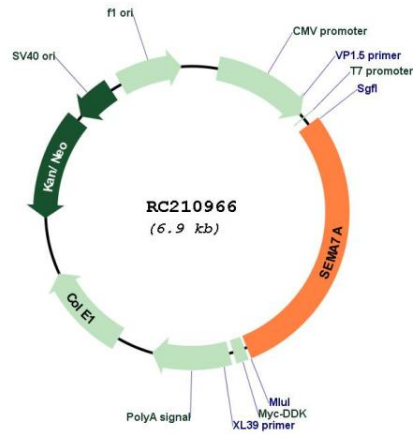
**Domains:** Sema, PSI

**Protein Pathways:** Axon guidance

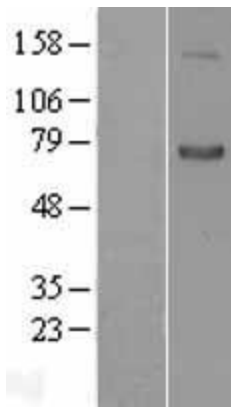
**MW:** 74.8 kDa

**Gene Summary:** This gene encodes a member of the semaphorin family of proteins. The encoded preproprotein is proteolytically processed to generate the mature glycosylphosphatidylinositol (GPI)-anchored membrane glycoprotein. The encoded protein is found on activated lymphocytes and erythrocytes and may be involved in immunomodulatory and neuronal processes. The encoded protein carries the John Milton Hagen (JMH) blood group antigens. Mutations in this gene may be associated with reduced bone mineral density (BMD). Alternative splicing results in multiple transcript variants, at least one of which encodes an isoform that is proteolytically processed. [provided by RefSeq, Feb 2016]

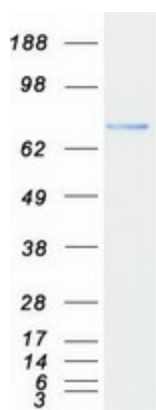
Product images:



Circular map for RC210966



Western blot validation of overexpression lysate (Cat# [LY401196]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC210966 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SEMA7A protein (Cat# [TP310966]). The protein was produced from HEK293T cells transfected with SEMA7A cDNA clone (Cat# RC210966) using MegaTran 2.0 (Cat# [TT210002]).