

Product datasheet for **RC202231**

SEMA4A (NM_022367) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SEMA4A (NM_022367) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SEMA4A
Synonyms:	CORD10; RP35; SEMAB; SEMB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide
Sequence:**

>RC202231 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCCTCCCAGCCCTGGGCCTGGACCCCTGGAGCCTCTGGGCCTTTTCTCTTCCAACCTGCTTCAGC
 TGCTGCTGCCGACGACGACCGCGGGGGAGGCGGGCAGGGGCCATGCCAGGGTCAGATACTATGCAGG
 GGATGAACGTAGGGCACTTAGCTTCTTCCACCAGAAGGGCCTCCAGGATTTTGACACTCTGCTCCTGAGT
 GGTGATGGAAATACTCTCTACGTGGGGCTCGAGAAGCCATTCTGGCCTTGATATCCAGGATCCAGGGG
 TCCCCAGGCTAAAGAACATGATACCGTGGCCAGCCAGTGACAGAAAAAGAGTGAATGTGCCTTTAAGAA
 GAAGAGCAATGAGACACAGTGTTCAACTTCATCCGTGCTGTTTCTTACAATGTCACCCATCTCTAC
 ACCTGCGGCACCTTCGCCTTCAGCCCTGCTGTACCTTATTGAACCTCAAGATTCCTACCTGTTGCCCA
 TCTCGGAGGACAAGGTGATGGAGGGAAAAGGCCAAAGCCCCTTTGACCCCGCTCACAAAGCATAACGGCTGT
 CTTGGTGGATGGGATGCTCTATTCTGGTACTATGAACAACCTCCTGGGCAGTGAGCCCATCTGATGCGC
 ACACTGGGATCCAGCCTGCTCCTCAAGACCGACAACCTCCTCCGCTGGCTGCATCATGACGCCTCCTTTG
 TGGCAGCCATCCCTTCGACCCAGGTGCTACTTCTTCTCGAGGAGACAGCCAGCGAGTTTGACTTCTT
 TGAGAGGCTCCACACATCGCGGGTGGCTAGAGTCTGCAAGAATGACGTGGGCGGGGAAAAGCTGCTGCAG
 AAGAAGTGGACCACCTTCTGAAGGCCAGCTGCTCTGCACCCAGCCGGGCAGCTGCCCTTCAACGTCA
 TCCGCCACGCGGTCTGCTCCCCGCGATTCTCCACAGCTCCCCACATCTACGCAGTCTTACCTCCCA
 GTGGCAGTTGGCGGGACAGGAGCTCTGCGGTTTGTGCCTTCTCTCTTGGACATTGAACGTGTCTTT
 AAGGGGAAATACAAGAGTTGAACAAAGAACTCACGCTGGACTACTTATAGGGGCCCTGAGACCAACC
 CCCGGCCAGGCAGTTGCTCAGTGGGCCCTCCTCTGATAAGGCCCTGACCTTCATGAAGGACCACTTCTCT
 GATGGATGAGCAAGTGGTGGGGACGCCCTGCTGGTGAATCTGGCGTGGAGTATACACGGCTTGCAGTG
 GAGACAGCCAGGCCCTGATGGGCACAGCCATCTTGTATGTACCTGGGAACCCACAGGGTCCGCTCC
 ACAAGGCTGTGGTAAGTGGGGACAGCAGTGTCTATCTGGTGAAGAGATTAGCTGTTCCCTGACCTGA
 ACCTGTTGCAACCTGCAGCTGGCCCCACCCAGGGTGCAGTGTGTTGAGGCTTCTCAGGAGGTGTCTGG
 AGGGTGGCCCGAGCCAAGTGTGTCTATGAGAGCTGTGTGGACTGTGCTTGGCCGGGACCCCACT
 GTGCTGGGACCCTGAGTCCCGAACCTGTTGCCTCCTGTCTGCCCAACCTGAACCTCCTGGAAGCAGGA
 CATGGAGCGGGGAAACCCAGAGTGGGCATGTGCCAGTGGCCCATGAGCAGGAGCCTTCGCCTCAGAGC
 CGCCCGAAATCATTAAAGAAGTCTGGCTGTCCCTAACTCCATCCTGGAGCTCCCTGCCCCACCTGT
 CAGCCTTGGCCTCTTATTATTGGAGTATGGCCAGCAGCAGTCCAGAAAGCCTCTTCCACTGTCTACAA
 TGCTCCCTCTTGTGATAGTGCAGGATGGAGTTGGGGTCTCTACCAGTGTGGCAACTGAGAATGGC
 TTTTCATACCCTGTGATCTCTACTGGGTGGACAGCCAGGACCAGACCCTGGCCCTGGATCCTGAACTGG
 CAGGCATCCCCGGGAGCATGTGAAGTCCCCTGACCAGGGTCAAGTGGTGGGGCCGCCCTGGCTGCCCA
 GCAGTCTACTGGCCCACTTTGTCACTGTCACTGTCTCTTTGCCTTAGTGCTTTCAGGAGCCCTCATC
 ATCCTCGTGGCCTCCCAATTGAGAGCACTCCGGGCTCGGGGAAGGTTCAAGGCTGTGAGACCCTGCGCC
 CTGGGGAGAAGGCCCGTTAAGCAGAGCAACACCTCCAGTCTCCAAAGGAATGCAGGACCTCTGCCAG
 TGATGTGGACGCTGACAACAACCTGCCTAGGCACTGAGGTAGCT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC202231 protein sequence
Red=Cloning site Green=Tags(s)

MALPALGLDPWSLLGLFLFQLQLLLPTTTAGGGGQGPMPRVRYAGDERRALSFHQKGLQDFDTLLLS
 GDGNTLYVGAREAILALDIQDPGVPRLKNMIPWPASDRKKSECAFKKKSNETQCFNFI RVLVSYNVTHLY
 TCGTFAFSPACTFIELQDSYLLPISEDKVMEGKGQSPFPAHKHTAVLVDGMLYSGTMNFLGSEPILMR
 TLGSPVLKTDNFLRWLHHDASFVAAIPSTQVVYFFFEETASEFDFFERLHTSRVARVCKNDVGGKLLQ
 KKWTTFLKAQLLCTQPGQLPFNVIRHAVLLPADSPTAPHIYAVFTSQWQVGGTRSSAVCAFSLLDIERVF
 KGKYKELNKETSRWTTYRGPETNPRPGSCSVGPS SDKALTFMKDHFLMDEQVVGTPLLVKS GVEYTRLAV
 ETAQGLDGHSHLVMYLGTGTTGSLHKAVVSGDSSAHLVEEIQLPDPEPVRNLQLAPTQGAVFVGFSGGVW
 RYPRANCSVYESCVDCLARDPHCAWDPE SRTCCLLSAPNLNSWKQDMERGNPEWACASGPM SRSRLR PQS
 RPQI I KEVLAVPNSILELPCPHLSALASYW SHGPAAVPEASSTVYNGSLLLIVQDGVGGLYQCWATENG
 FSYPVISYWDSQDQTLALDPELAGIPREHV K VPLTRVSGGAALAAQSYWPHFVTVTVLFALVLSGALI
 ILVASPLRALRARGKVQGCETLRPGEKAPLSREQHLQSPKECRTSASDVDADNNCLGTEVA

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6201_d10.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_022367

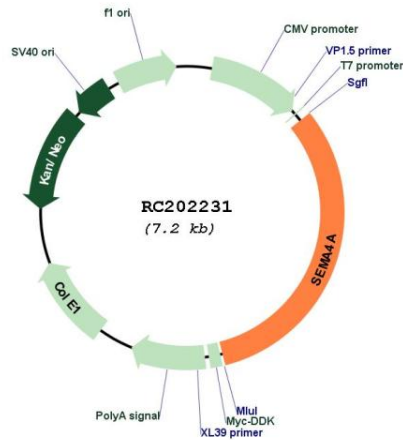
ORF Size: 2283 bp

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](#)

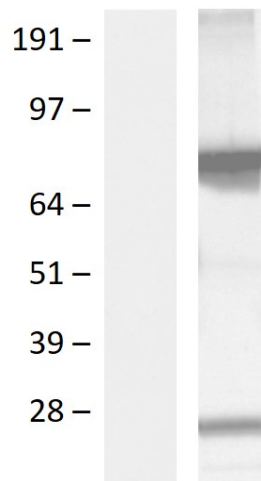
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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:	<ol style="list-style-type: none">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_022367.2 , NP_071762.2
RefSeq Size:	3313 bp
RefSeq ORF:	2286 bp
Locus ID:	64218
UniProt ID:	Q9H3S1
Cytogenetics:	1q22
Domains:	Sema, PSI, PSI
Protein Families:	Transmembrane
Protein Pathways:	Axon guidance
MW:	83.6 kDa
Gene Summary:	<p>This gene encodes a member of the semaphorin family of soluble and transmembrane proteins. Semaphorins are involved in numerous functions, including axon guidance, morphogenesis, carcinogenesis, and immunomodulation. The encoded protein is a single-pass type I membrane protein containing an immunoglobulin-like C2-type domain, a PSI domain and a sema domain. It inhibits axonal extension by providing local signals to specify territories inaccessible for growing axons. It is an activator of T-cell-mediated immunity and suppresses vascular endothelial growth factor (VEGF)-mediated endothelial cell migration and proliferation in vitro and angiogenesis in vivo. Mutations in this gene are associated with retinal degenerative diseases including retinitis pigmentosa type 35 (RP35) and cone-rod dystrophy type 10 (CORD10). Multiple alternatively spliced transcript variants encoding different isoforms have been identified.[provided by RefSeq, Sep 2010]</p>

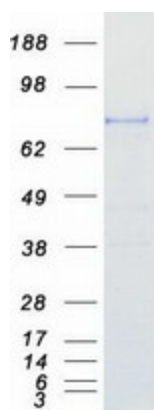
Product images:



Circular map for RC202231



Western blot validation of overexpression lysate (Cat# [LY402923]) using anti-DDK antibody (Cat# [TA592569]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202231 using transfection reagent PEI.



Coomassie blue staining of purified SEMA4A protein (Cat# [TP302231]). The protein was produced from HEK293T cells transfected with SEMA4A cDNA clone (Cat# RC202231) using MegaTran 2.0 (Cat# [TT210002]).