

Product datasheet for **RC234849**

SEMA4A (NM_001193301) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SEMA4A (NM_001193301) 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:

>RC234849 representing NM_001193301
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCCTCCAGCCCTGGGCCTGGACCCCTGGAGCCTCTGGGCCTTTCTCTTCCAACCTGCTTCAGC
 TGCTGCTGCCGACGACGACCGCGGGGGAGGCGGGCAGGGGCCATGCCAGGGTCAGATACTATGCAGG
 GGATGAACGTAGGGCACTTAGCTTCTTCCACCAGAAGGGCCTCCAGGATTTTGACACTCTGCTCCTGAGT
 GGTGATGGAAATACTCTCTACGTGGGGCTCGAGAAGCCATTCTGGCCTTGATATCCAGGATCCAGGGG
 TCCCCAGGCTAAAGAACATGATACCGTGGCCAGCCAGTGACAGAAAAAGAGTGAATGTGCCTTTAAGAA
 GAAGAGCAATGAGACACAGTGTTCAACTTCATCCGTGTCCTGGTTTCTTACAATGTCACCCATCTCTAC
 ACCTGCGGCACCTTCGCCTTCAGCCCTGCTGTACCTTCATTGAACTTCAAGATTCCTACCTGTTGCCCA
 TCTCGGAGACAAGGTGATGGAGGGAAAAGGCCAAAGCCCCTTTGACCCCGCTCACAAAGCATAACGGCTGT
 CTTGGTGGATGGGATGCTCTATTCTGGTACTATGAACAACCTCCTGGGCAGTGAGCCCATCTGATGCGC
 ACACTGGGATCCAGCCTGTCCTCAAGACCGACAACCTCCTCCGCTGGCTGCATCATGACGCCTCCTTTG
 TGGCAGCCATCCCTTCGACCCAGGTGCTACTTCTTCTCGAGGAGACAGCCAGCGAGTTTGACTTCTT
 TGAGAGGCTCCACACATCGCGGGTGGCTAGAGTCTGCAAGAATGACGTGGGCGGGGAAAAGCTGCTGCAG
 AAGAAGTGGACCACCTTCTGAAGGCCAGCTGCTCTGCACCCAGCCGGGCGAGCTGCCCTTCAACGTCA
 TCCGCCACGCGGTCTGCTCCCCGCCGATTCTCCACAGCTCCCCACATCTACGCAGTCTTACCTCCCA
 GTGGCAGTTGGCGGGACAGGAGCTCTGCGGTTTGTGCCTTCTCTCTTGGACATTGAACGTGTCTTT
 AAGGGGAAATACAAGAGTTGAACAAAGAACTCACGCTGGACTACTTATAGGGGCCCTGAGACCAACC
 CCCGGCCAGGCAGTTGCTCAGTGGGCCCTCCTCTGATAAAGGCCCTGACCTTCATGAAGGACCACTTCTCT
 GATGGATGAGCAAGTGGTGGGGACGCCCTGCTGGTGAATCTGGCGTGGAGTATACACGGCTTGCAGTG
 GAGACAGCCAGGGCCTTGATGGGCACAGCCATCTTGTATGTACCTGGGAACCCACAGGGTTCGCTCC
 ACAAGGCTGTGGTAAGTGGGGACAGCAGTGTCTATCTGGTGAAGAGATTGAGCTGTTCCCTGACCTGA
 ACCTGTTGCAACCTGCAGCTGGCCCCACCCAGGGTGCAGTGTGTTGAGGCTTCTCAGGAGGTGTCTGG
 AGGGTGGCCCGAGCCAACCTGTAGTGTCTATGAGAGCTGTGTGGACTGTGCTCTTGGCCGGGACCCCACT
 GTGCTGGGACCCTGAGTCCCGAACCTGTTGCCTCCTGTCTGCCCAACCTGAACTCCTGGAAGCAGGA
 CATGGAGCGGGGAACCCAGAGTGGGCATGTGCCAGTGGCCCATGAGCAGGAGCCTTCGCCTCAGAGC
 CGCCCGAAATCATTAAAGAAGTCTGGCTGTCCCAACTCCATCCTGGAGCTCCCTGCCCCACCTGT
 CAGCCTTGGCCTCTTATTATTGGAGTATGGCCAGCAGCAGTCCAGAAAGCCTCTTCCACTGTCTACAA
 TGCTCCCTCTTGTGATAGTGCAGGATGGAGTTGGGGTCTCTACCAAGTGTGGCAACTGAGAATGGC
 TTTTCATACCCTGTGATCTCCTACTGGGTGGACAGCCAGGACCAGACCCTGGCCCTGGATCCTGAACTGG
 CAGGCATCCCCGGGAGCATGTGAAGTCCCCTTGACCAGGGTCAAGTGGTGGGGCCGCCCTGGCTGCCCA
 GCAGTCTACTGGCCCACTTTGTCACTGTCACTGTCTCTTTGCCTTAGTGCTTTCAGGAGCCCTCATC
 ATCCTCGTGGCCTCCCAATTGAGAGCACTCCGGGCTCGGGGAAGGTTCAAGGCTGTGAGACCCTGCGCC
 CTGGGGAGAAGGCCCGTTAAGCAGAGACAAACCTCCAGTCTCCAAAGGAATGCAGGACCTCTGCCAG
 TGATGTGGACGCTGACAACAACCTGCCTAGGCACTGAGGTAGCT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC234849 representing NM_001193301
Red=Cloning site Green=Tags(s)

MALPALGLDPWSLLGLFLFQLQLLLPTTTAGGGGQGPMPRVRYAGDERRALSFHQKGLQDFDTLLLS
 GDGNTLYVGAREAILALDIQDPGVPRLKNMIPWPASDRKKSECAFKKKSNETQCFNFIRVLVSYNVTHLY
 TCGTFAFSPACTFIELQDSYLLPISEDKVMEGKGQSPFDPAHKHTAVLVDGMLYSGMTNNFLGSEPILMR
 TLGSQPVLKTDNFLRWLHHDASFVAAIPSTQVVYFFFEETASEFDFFERLHTSRVARVCKNDVGGKLLQ
 KKWTTFLKAQLLCTPQQLPFNVIRHAVLLPADSPTAPHIYAVFTSQWQVGGTRSSAVCAFSLLDIERVF
 KGKYKELNKETSRWTTYRGPETNPRPGSCSVGSSDKALTFMKDHFMDQEQQVGTPLLVKSGVEYTRLAV
 ETAQGLDGHSHLVMYLGTGTTGSLHKAVVSGDSSAHLVEEIQLPDPEPVRNLQLAPTQGAVFVFGSGGVW
 RYPRANCSVYESCVDCLARDPHCAWDPESTRCCLLSAPNLNSWKQDMERGNPEWACASGPMRSRLRPQS
 RPQIIKEVLAVPNSILELPCPHLSALASYWSHGPAAVPEASSTVYNGSLLLIVQDGVGGLYQCWATENG
 FSYVPVISYWDSQDQTLALDPELAGIPREHVKVLTRVSGGAALAAQSYWPHFVTVTVLFALVLSGALI
 ILVASPLRALRARGKVQGCETLRPGEKAPLSREQHLQSPKECRTSASDVDADNNCLGTEVA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_001193301

ORF Size: 2283 bp

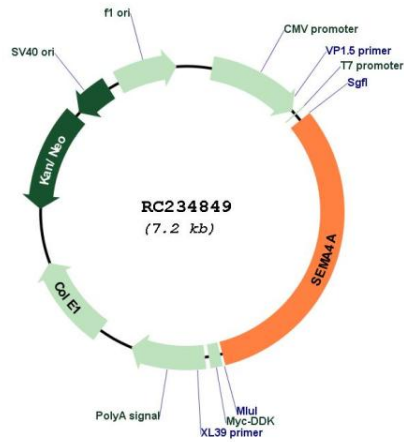
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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:	<u>NM_001193301.1, NP_001180230.1</u>
RefSeq Size:	3229 bp
RefSeq ORF:	2286 bp
Locus ID:	64218
UniProt ID:	<u>Q9H3S1</u>
Cytogenetics:	1q22
Protein Families:	Transmembrane
Protein Pathways:	Axon guidance
MW:	84 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 RC234849