

## Product datasheet for **RG202231**

### SEMA4A (NM\_022367) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	SEMA4A (NM_022367) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SEMA4A
Synonyms:	CORD10; RP35; SEMAB; SEMB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG202231 representing NM\_022367  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCCTCCCAGCCCTGGGCCTGGACCCCTGGAGCCTCTGGGCCTTTTCTCTTCCAACCTGCTTCAGC  
 TGCTGCTGCCGACGACGACCGCGGGGGAGGCGGGCAGGGGCCATGCCAGGGTCAGATACTATGCAGG  
 GGATGAACGTAGGGCACTTAGCTTCTTCCACCAGAAGGGCCTCCAGGATTTTGACACTCTGCTCCTGAGT  
 GGTGATGGAAATACTCTCTACGTGGGGCTCGAGAAGCCATTCTGGCCTTGATATCCAGGATCCAGGGG  
 TCCCCAGGCTAAAGAACATGATACCGTGGCCAGCCAGTGACAGAAAAAGAGTGAATGTGCCTTTAAGAA  
 GAAGAGCAATGAGACACAGTGTTCACCTTCATCCGTGTCCTGGTTTCTTACAATGTCACCCATCTCTAC  
 ACCTGCGGCACCTTCGCCTTCAGCCCTGCTGTACCTTCATTGAACCTCAAGATTCCTACCTGTTGCCCA  
 TCTCGGAGACAAGGTGATGGAGGGAAAAGGCCAAAGCCCCTTTGACCCCGCTCACAAAGCATAACGGCTGT  
 CTTGGTGGATGGGATGCTCTATTCTGGTACTATGAACAACCTCCTGGGCAGTGAGCCCATCTGATGCGC  
 ACACTGGGATCCCAGCCTGTCCTCAAGACCGACAACCTCCTCCGCTGGCTGCATCATGACGCCTCCTTTG  
 TGGCAGCCATCCCTTCGACCCAGGTGCTACTTCTTCTCGAGGAGACAGCCAGCGAGTTTGACTTCTT  
 TGAGAGGCTCCACACATCGCGGGTGGCTAGAGTCTGCAAGAATGACGTGGGCGGGGAAAAGCTGCTGCAG  
 AAGAAGTGGACCACCTTCTGAAGGCCAGCTGCTCTGCACCCAGCCGGGCAGCTGCCCTTCAACGTCA  
 TCCGCCACGCGGTCTGCTCCCCGCCGATTCTCCACAGCTCCCCACATCTACGCAGTCTTACCTCCCA  
 GTGGCAGTTGGCGGGACCAGGAGCTCTGCGGTTTGTGCCTTCTCTCTTGGACATTGAACGTGTCTTT  
 AAGGGGAAATACAAGAGTTGAACAAAGAACTCACGCTGGACTACTTATAGGGGCCCTGAGACCAACC  
 CCCGGCCAGGCAGTTGCTCAGTGGGCCCTCCTCTGATAAAGGCCCTGACCTTCATGAAGGACCACTTCT  
 GATGGATGAGCAAGTGGTGGGACGCCCCCTGCTGGTGAATCTGGCGTGGAGTATACACGGCTTGCAGTG  
 GAGACAGCCAGGCCCTGATGGGCACAGCCATCTTGTATGTACCTGGGAACCACCACAGGGTTCGCTCC  
 ACAAGGCTGTGGTAAGTGGGGACAGCAGTGTCTATCTGGTGAAGAGATTGAGCTGTTCCCTGACCTGA  
 ACCTGTTTCGCAACCTGCAGCTGGCCCCACCCAGGGTGCAGTGTGTTGAGGCTTCTCAGGAGGTGTCTGG  
 AGGGTGGCCCGAGCCAACCTGTAGTGTCTATGAGAGCTGTGTGGACTGTGCTTGGCCGGGACCCCACT  
 GTGCTGGGACCCTGAGTCCCGAACCTGTTGCCTCCTGTCTGCCCAACCTGAACCTCCTGGAAGCAGGA  
 CATGGAGCGGGGAACCCAGAGTGGGCATGTGCCAGTGGCCCCATGAGCAGGAGCCTTCGGCCTCAGAGC  
 CGCCCGAAATCATTAAAGAAGTCTGGCTGTCCCTAACTCCATCCTGGAGCTCCCTGCCCCACCTGT  
 CAGCCTTGGCCTCTTATTATTGGAGTATGGCCAGCAGCAGTCCAGAAAGCCTCTTCCACTGTCTACAA  
 TGCTCCCTCTTGTGATAGTGCAGGATGGAGTTGGGGTCTCTACCAGTGTGGCAACTGAGAATGGC  
 TTTTCATACCCTGTGATCTCCTACTGGGTGGACAGCCAGGACCAGACCCTGGCCCTGGATCCTGAACTGG  
 CAGGCATCCCCGGGAGCATGTGAAGTCCCCTTGACCAGGGTCAAGTGGTGGGGCCGCCCTGGCTGCCCA  
 GCAGTCTACTGGCCCACTTTGTCACTGTCACTGTCTCTTTGCCTTAGTGCTTTCAGGAGCCCTCATC  
 ATCCTCGTGGCCTCCCCATTGAGAGCACTCCGGGCTCGGGGAAGGTTCAAGGCTGTGAGACCCTGCGCC  
 CTGGGGAGAAGGCCCGTTAAGCAGAGCAACACCTCCAGTCTCCCAAGGAATGCAGGACCTCTGCCAG  
 TGATGTGGACGCTGACAACAACCTGCCTAGGCACTGAGGTAGCT

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

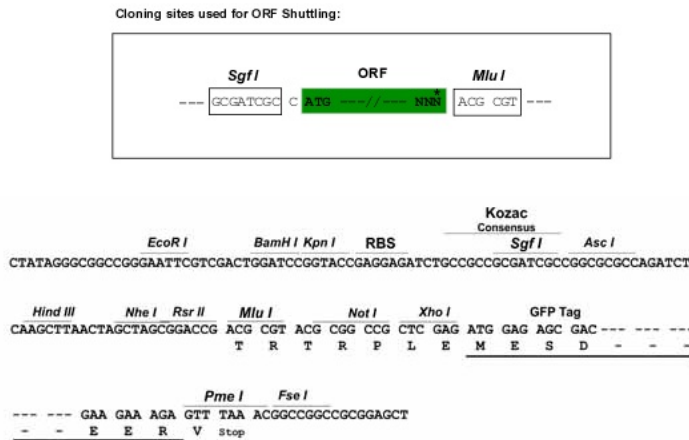
**Protein Sequence:** >RG202231 representing NM\_022367  
Red=Cloning site Green=Tags(s)

MALPALGLDPWSLLGLFLFQLLQLLLPTTTAGGGGQGPMPRVRYAGDERRALSFHQKGLQDFDTLLLS  
 GDGNTLYVGAREAILALDIQDPGVPRLKNMIPWPASDRKKSECAFKKKSNETQCFNFIIRVLSYNVTHLY  
 TCGTFAFSPACTFIELQDSYLLPISEDKVMEGKGQSPFDPAHKHTAVLVDGMLYSGTMNFLGSEPILMR  
 TLGSQPVLKTDNFLRWLHHDASFVAAIPSTQVVYFFFEETASEFDFFERLHTSRVARVCKNDVGGKLLQ  
 KKWTTFLKAQLLCTQPGQLPFNVIRHAVLLPADSPTAPHIYAVFTSQWQVGGTRSSAVCAFSLLDIERVF  
 KGKYKELNKETSRWTTYRGPETNPRPGSCSVGPS SDKALTFMKDHFMDQEQQVGTPLLVKSGVEYTRLAV  
 ETAQGLDGHSHLVMYLGTGSLHKAUVSGDSSAHLVEEIQLPDPEPVRNLQLAPTQGA VFGVSGGVW  
 RYPRANCSVYESCVDCLARDPHCAWDPESTRCCLLSAPNLNSWKQDMERGNPEWACASGPMRSRLRPQS  
 RPQIIKEVLAVPNSILELPCPHLSALASYWWSHGPAAVPEASSTVYNGSLLLIVQDGVGGLYQCWATENG  
 FSYPVISYWDSQDQTLALDPELAGIPREHVKVLTRVSGGAALAAQSYWPHFVTVTVLFALVLSGALI  
 ILVASPLRALRARGKVQGCETLRPGEKAPLSREQHLQSPKECRTSASDVEDANNCLGTEVA

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_022367

**ORF Size:** 2283 bp

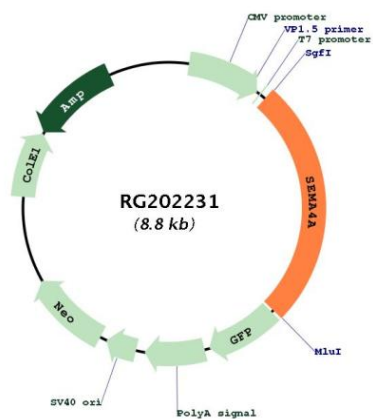
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_022367.2</a> , <a href="#">NP_071762.2</a>
<b>RefSeq Size:</b>	3257 bp
<b>RefSeq ORF:</b>	2286 bp
<b>Locus ID:</b>	64218
<b>UniProt ID:</b>	<a href="#">Q9H3S1</a>
<b>Cytogenetics:</b>	1q22
<b>Domains:</b>	Sema, PSI, PSI
<b>Protein Families:</b>	Transmembrane
<b>Protein Pathways:</b>	Axon guidance
<b>Gene Summary:</b>	<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 RG202231