

## Product datasheet for **RG231344**

### SEMA4A (NM\_001193302) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	SEMA4A (NM_001193302) 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:**

>RG231344 representing NM\_001193302  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGATACCGTGGCCAGCCAGTGACAGAAAAAGAGTGAATGTGCCTTTAAGAAGAAGAGCAATGAGGAAC  
 TTCAAGATTCTACCTGTTGCCATCTCGGAGGACAAGGTCATGGAGGAAAAGGCCAAAGCCCCTTTGA  
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 CAAGGAATGCAGGACCTCTGCCAGTGTGTGGACGCTGACAACAACCTGCCTAGGCACTGAGGTAGCT

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG231344 representing NM\_001193302  
 Red=Cloning site Green=Tags(s)

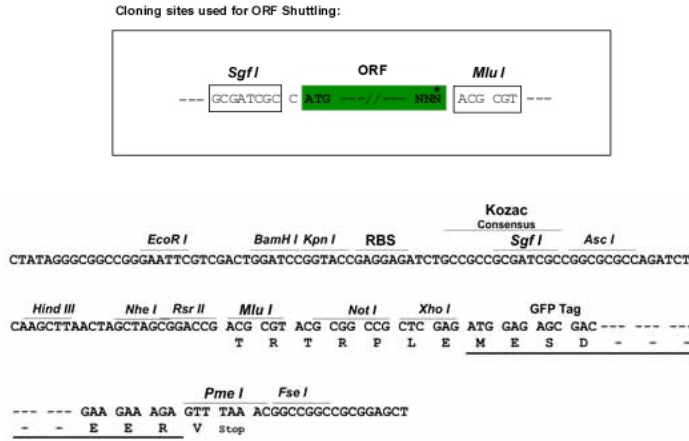
MIPWPASDRKKSECAFKKKSNEELQDSYLLPISEDKVMEGKGQSPFDPAHKHTAVLVDGMLYSGMTMNNFL  
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**TRTRPLE** - GFP Tag - V

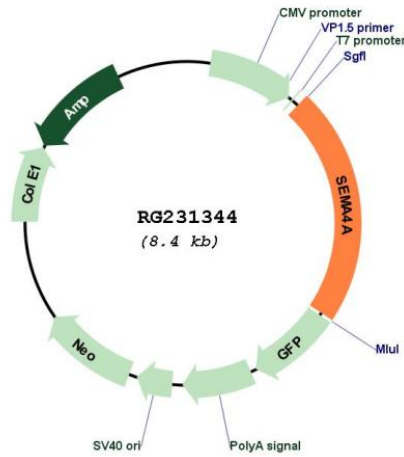
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



ACCN:                      NM\_001193302  
 ORF Size:                1887 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_001193302.1](#), [NP\\_001180231.1](#)

**RefSeq Size:** 2999 bp

**RefSeq ORF:** 1890 bp

**Locus ID:** 64218

**UniProt ID:** [Q9H3S1](#)

**Cytogenetics:** 1q22

**Protein Families:** Transmembrane

**Protein Pathways:** Axon guidance

**Gene Summary:**

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]