

## Product datasheet for RC235190

### SEMA5B (NM\_001256346) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	SEMA5B (NM_001256346) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SEMA5B
Synonyms:	SEMAG; SemG
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC235190 representing NM_001256346 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGGATCGCC

ATGCCCTGTGGCTTCAGTCCGTCTCTGTTGCCACCACCTCGTCCCTGGGCGCCTGATACCCAGCCC  
AACAGCTAAGGTGTGGATGGACAGTAGGGGGCTGGCTTCTCACTGGTCAGGGGTTTCTCCCTGTCT  
GCCTCCCGGAGCTAGGACTGCAGAGGGCCTATCATGGTGCTGCAGGCCCTGGCTGTCTCGTGTTG  
CTGCCAGCCTCACACTGCTGGTGTCCACCTCTCCAGCTCCAGGATGTCTCCAGTGAGCCAGCAGTG  
AGCAGCAGCTGTGCGCCCTTAGCAAGCACCCACCGTGGCCTTTGAAGACCTGCAGCCGTGGGTCTCAA  
CTTCACCTACCCTGGAGCCCGGATTTCTCCAGCTGGCTTTGGACCCCTCCGGGAACAGCTCATCGTG  
GGAGCCAGGAACCTCTTCAGACTCAGCCTTGCCAATGTCTCTTCTTCAGGCCACAGAGTGGGCT  
CCAGTGAGGACACGCGCCGCTCTGCCAAAGCAAAGGGAAGACTGAGGAGGAGTGCAGAAGTACGTGCG  
AGTCTGATCGTCGCGCGCCGGAAGGTGTTGATGTGTGGAACCAATGCCTTTTCCCCATGTGCACCAGC  
AGACAGGTGGGGAACCTCAGCCGACTATTGAGAAGATCAATGGTGTGGCCCGCTGCCCTATGACCCAG  
GCCACAACCTCCAGCTGTCTCTCCAGGGGAGCTATGCAGCCACGGTCACTCATCTCAGG  
TCGGGACCCTGCCATCTACCGCAGCCTGGGCAGTGGGCCACCGCTTCGACTGCCCAATATAACTCCAAG  
TGGCTTAATGAGCCAACTTCGTGGCAGCCTATGATATTGGGCTGTTTGCATACTTCTTCTGCGGAGA  
ACGCAGTGGAGCAGACTGTGGACGCACCGTGTACTCTCGCGTGGCCCGGTGTGCAAGAATGACGTGGG  
GGGCCGATTCTGCTGGAGGACACATGGACCACATTGATGAAGGCCCGCTCAACTGCTCCCGCCGGGC  
GAGGTCCCCTTACTATAACGAGCTGCAGAGTGCCTTCCACTTGCCGGAGCAGGACCTCATCTATGGAG  
TTTTCAACAACGTAACAGCATCGCGCTTCTGCTGTCTGCGCTTCAACCTCAGTGTATCTCCCA  
GGCTTTCAATGGCCATTTGCTACCAGGAGAACCCAGGGCTGCCTGGCTCCCATAGCCAACCCATC  
CCCAATTTCCAGTGTGGACCCTGCCTGAGACCGTCCCAACGAGAACCTGACGGAGCGCAGCCTGCAGG  
ACGCGCAGCGCCTTCTGATGAGCGAGGCCGTGCAGCCGGTGACACCCGAGCCCTGTGTACCCAGGA  
CAGCGTGCCTTCTCACCTCGTGGTGGACCTGGTGCAGGCTAAAGACAGCTCTACCATGTACTCTAC  
ATTGGCACCGAGTCGGGCACCATCTGAAGGCGCTGTCCACGGCAGCCGACCTCCACGGCTGTACT



TGGAGGAGCTGCACGTGCTGCCCCGGGGCCCGCAGCCCTGCGCAGCCTGCGCATCCTGCACAGCGC  
CCGCGCGCTCTTCGTGGGGCTGAGAGACGGCGTCTGCGGGTCCCACTGGAGAGGTGCGCCCGCTACCGC  
AGCCAGGGGGCATGCCTGGGGGCCGGGACCCGTAAGTGTGGTGGGACGGGAAGCAGCAACGTTGCAGCA  
CACTCGAGGACAGCTCCAACATGAGCCTCTGGACCCAGAACATCACCGCCTGTCTGTGCGGAATGTGAC  
ACGGGATGGGGGCTTCGGCCATGGTCACCATGGCAACCATGTGAGCACTGGATGGGGACAACCTCAGGC  
TCTTGCCTGTGTCGAGCTCGATCCTGTGATCCCTCGACCCCGCTGTGGGGCCCTTGACTGCCTGGGGC  
CAGCCATCCACATCGCCAACTGCTCCAGGAATGGGGCTGGACCCCGTGGTCATCGTGGGGCTGTGACG  
CAGTCTGTGGCATCGGCTTCCAGTCCGCCAGCGAAGTTGCAGCAACCCCTGCTCCCCGCCACGGGGC  
CGCATCTGCGTGGGCAAGAGCCGGGAGGAACGGTTCTGTAATGAGAACACGCCTTGCCCGGTGCCCATCT  
TCTGGGCTTCTGGGGCTCCTGGAGCAAGTGCAGCAGCAACTGTGGAGGGGGCATGCAGTCGCGCGCTCG  
GGCCTGCGAGAACGGCAACTCCTGCCTGGGCTGCGGCGTGGAGTTCAAGACGTGCAACCCCGAGGGCTGC  
CCCGAAGTGGCGCAACACCCCTGGACGCGTGGTGCCTGTAACGTGACGCAGGGCGGGGCACGGC  
AGGAGCAGCGGTTCCGCTTACCTGCCGCGCGCCCTTGACAGCCGCACGGCCTGCAGTTCGGCAGGAG  
AAGGACCAGACGAGGACCTGTCCGCGGACGGCTCCGGCTCCTGCGACACCGACGCCCTGGTGGAGGTC  
CTCTGCGCAGCGGGAGCACCTCCCGCACACGGTGGAGCGGGGCTGGGCCCGCTGGGGCCCGTGGTCTGT  
CCTGCTCCCGGACTGCGAGCTGGGCTTCCGCTCCGCAAGAGAAGTGCAGTCAACCCCGAGCCCGCAA  
CGGGGGCCTGCCCTGCGTGGGCGATGCTGCCGAGTACCAGGACTGCAACCCCAAGGCTTGCCAGTTTCGG  
GGTGTCTGGTCTGCTGGACCTCATGGTCTCCATGCTCAGCTTCTGTGGTGGGGGTCACTATCAACGCA  
CCCGTTCTGCACCAGCCCCGCACCCCTCCCGAGGTGAGGACATCTGTCTCGGGCTGCACACGGAGGAGGC  
ACTATGTGCCACACAGGCTGCCAGAAGGCTGGTGCCTGGTCTGAGTGGAGTAAGTGCAGTGCAGCAG  
GGAGCCCAGAGCCGAAGCCGGCACTGTGAGGAGCTCCTCCAGGGTCCAGCGCCTGTGCTGGAAACAGCA  
GCCAGAGCCGCCCTGCCCTACAGCGAGATCCCGTCTCCTGCCAGCCTCCAGCATGGAGGAGGCCAC  
CGACTGTGACAGGTTCAATCTCATCCACTTGGTGGCCACGGGCATCTCCTGCTTCTGGGCTCTGGGCTC  
CTGACCTTAGCAGTGTACCTGTCTTGCAGCACTGCCAGCGTCAGTCCCAGGAGTCCACACTGGTCCATC  
CTGCCACCCCAACCATTTGCACTACAAGGGCGGAGGCACCCGAAGAATGAAAAGTACACACCCATGGA  
ATTCAAGACCCTGAACAAGAATAACTTGTATCCCTGATGACAGAGCAACTTCTACCCATTGCAGCAGACC  
AATGTGTACACGACTACTACTACCAAGCCCCCTGAACAACACAGCTTCCGGCCCCGAGGCCTCACCTG  
GACAACGGTGCTTCCCCAACAGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC235190 representing NM\_001256346  
 Red=Cloning site Green=Tags(s)

MPCGFSPSPVAHHLVPGPPDTPAQQLRCGWTVGGWLLSLVRGLLPCLPPGARTAEGPIMVLAGPLAVSLL  
 LPSLTLLVSHLSSSQDVSSEPSSEQQCALSKHPTVAFEDLQPWVSNFTYPGARDFSQLALDPSGNQLIV  
 GARNYLFRSLANVSLAQATEWASSEDTRRSCQSKGKTEEECONYVRVIVAGRKVFMCGTNAFSPMCTS  
 RQVGNLSRTIEKINGVARCPYDPRHNSTAVISSQGELYAATVIDFSGRDPAIYRSLGSGPPLRTAQYNSK  
 WLNPNFVAAYDIGLFAYFFLRENAVEHDCGRTVYSRVARVCKNDVGGRFLEDTWTTFMKARLNCSRPG  
 EVPFYYNELQSAFHLPEQDLIYGVFTTNVNSIAASAVCAFNLSAISQAFNGPFRYQENPRAAWLPIANPI  
 PNFQCGTLPETGPNENLTERSLQDAQRLFLMSEAVQPVTPEPCVTQDSVRFSHLVVDLVQAKDTLYHVLV  
 IGTESGTILKALSTASRSLHGCYLEELHVLPPGRREPLRSLRILHSARALFVGLRDGVLVPLERCAAYR  
 SQGACLGARDPYCGWDGKQRCSTLEDSSNMSLWTQNITACVPRNVTRDGGFGPWSWPQCEHLGDGNSG  
 SCLCRARSCDSPRRCGGLDCLGPAIHIANCSRNGAWTPWSSWALCSTSCGIGFQVRQRSCSNPAPRHGG  
 RICVKGSRERFCNENTPCVPPIFWASWGSWSKCSSNCGGMQSRRRACENGNSCLGCGVEFKTCNPEGC  
 PEVRRNTPWTPWLPVNVVQGGARQEQRFRFTCRAPLADPHGLQFGRRRTETRTCPADGSGSCD DALVEV  
 LLRSGSTSPHTVSGGWAAGWPWSSCSRDCELGFRVRKRTCTNPEPRNGGLPCVGDAAEYQDCNPQACPVR  
 GAWSCWTSWSPCSASC GGHYQRTRCTSPAPSPGEDI CLGLHTEALCATQACPEGWSPSEWSKCTDD  
 GAQSRSRHCEELLPGSSACAGNSSQSRPCPYSEIPVILPASSMEEATDCAGFNL IHLVATGISCF LGSL  
 LTLAVYLSQC HCQRQSQESTLVHPATPNHLHYKGGGTPKNEKYTPMEFKTLNKNLIPDDRANFYPLQQT  
 NVYTTTYPSPLNKHSFRPEASPGQRCFPNS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

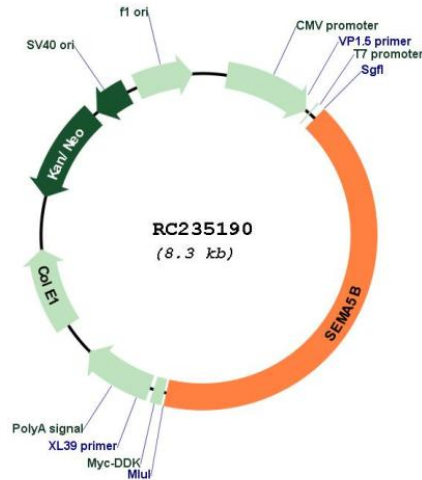
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



## Plasmid Map:



ACCN: NM\_001256346

ORF Size: 3453 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\\_001256346.1](#), [NP\\_001243275.1](#)

RefSeq Size: 4933 bp

RefSeq ORF: 3456 bp

Locus ID: 54437

UniProt ID: [Q9P283](#)

Cytogenetics: 3q21.1

**Protein Families:** Transmembrane

**Protein Pathways:** Axon guidance

**MW:** 126.4 kDa

**Gene Summary:** This gene encodes a member of the semaphorin protein family which regulates axon growth during development of the nervous system. The encoded protein has a characteristic Sema domain near the N-terminus, through which semaphorins bind to plexin, and five thrombospondin type 1 repeats in the C-terminal region of the protein. The protein product may be cleaved and exist as a secreted molecule (PMID: 19463192). Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2012]