

## Product datasheet for MR231777

### Syngap1 (NM\_001281491) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Syngap1 (NM_001281491) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Syngap1
Synonyms:	Gm1963; Syngap
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry2 (PS100063)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR231777 representing NM_001281491 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGAGCAGGTCTCGAGCCTCCATCCATCGGGGAGCATCCCCGCGATGTCCTATGCCCCCTTCAGAGATG  
TACGGGGACCCCCTATGCACCGAACCAATACGTTCAATCCCCGTACGATCGTCTGGTGGAAACCTCG  
GTTCTGCATCATCTCGGGGAACAGCTGCTCATGCTGGATGAGGATGAGATACACCCCCTTCTGATCCGC  
GACCGGAGGAGCGAGTCCAGCCGAAACAACTGCTGAGACGCACCGTCTCTGTGCCAGTGGAGGGCGGC  
CCCACGGCGAGCATGAATACCATTGGGTGCTCGAGGAGGAAGAGTGTCCAGGGGGAAACAGTACAG  
CATGGAGGCCGCCCGCTGCGCCCTCCGGCCCTCGCAAGGCTTCTGAGCCGGAGGCTAAAAAGCTCT  
ATCAAACGTACAAAGTACAACCCAACTTGACCGGACCAGCAGCTTTCGACAGATCCTGCCTCGTTC  
GAAGTGTGACCATGACCGGGCCCGGCTGATGCAGAGCTCAAGGAGTACATTCCCACGAGTCCCTGCT  
GAGTCCCAGTAGTGTGCTGAGGCCTGGAGCTCAACCTGGATGAAGACTCCATTATCAAGCCAGTACAC  
AGCTCCATCCTGGGTGAGGATTTGCTTTGAGGTAACAACATCATCTGGAACAAAATGCTTTGCCTGTC  
GGTCTGCAGCTGAAAGGGACAAATGGATTGAGAATCTGCAGAGGGCTGTAACCAACAAGGACAACAG  
CCGCCGAGTAGATAACGTGCTGAAGCTATGGATCATAGAGGCTCGAGAGCTGCCCCCAAGAAGAGATAT  
TACTGTGAGCTGTGCTGGACGACATGCTGTATGCACGAACCACTCAAGCCCCGCTCGGCTTCAGGAG  
ACACCGTCTTTGGGGCAGCACTTTGAGTTTAACAACCTGCTGCCGTCCGGGCCCTTCGGCTGCATCT  
GTACCGTGACTCAGACAAAAAGCGGAAGAAGGACAAGGCTGGCTACGTTGGCCTGGTACTGTTCCAGTG  
GCCACCCTAGCTGGGCGCACTTCACAGAGCAGTGGTACCCCGTACCTTGCCGACAGGCAGTGGGGCT  
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TCCTGCTGTGAGACTGAAAGCCGTTACCAGACGATGAGCATCCTGCCATGGAGCTGTATAAGGAGTTT  
GCAGAGTATGTGACCAACCATTACCGGATGCTATGTGCAGTGTGGAGCCTGCCGTAATGTCAAAGGCA  
AGGAAGAGGTGGCAGTGCCTGGTTCACATCCTGCAGAGCACAGGCAAGGCCAAGGACTTCCTTTCAGA  
CATGGCCATGTCAGAGGTAGACCGATTGAGGCGGGAACCTCATATTCCGAGAGAACACGCTGCC



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ACTAAAGCCATAGAAGAGTATATGAGACTGATTGGCCAGAAATACCTCAAGGATGCCATTGGGGAGTTCA  
 TTCGTGCTCTGTATGAATCTGAGGAGAACTGTGAAGTAGACCCCATCAAGTGCACAGCGTCCAGTCTGGC  
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 GGCTATAGCAAGAGCGAGGACCTCTCTCAGGGTCCCTAAGCCCCCGCGCTCCATCCTTACAGCC  
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 GGAGGGGGTGGGGGCTCAAGCCCTCCATCACCAGCAGCATTCCAGACTCCATCCAGCTTAAACCCA  
 CAATGCCAGCCTCGAGCGGACCGTAGCCTGGTCTCAAACATGCCTCACCTGTCGGCTGACATCGAGAG  
 TGCACACATCGAGCGAGAAGAGTACAAGCTCAAGGAGTACTCAAAGTCCATGGACGAAAGCCGGCTGGAC  
 AGGGTGAAGGAGTATGAGGAGGAGATACATTGCTGAAGGAGAGGCTACACATGTCCAACCGGAAGCTGG  
 AAGAGTATGAGCGGAGGTTGCTGTCCCAGGAAGAACAGACCAGCAAGATCCTGATGACGTACCAAGCCCG  
 CCTGGAGCAGAGTGAGAAGCGCTTGAGACAGCAGCAGGTGGAGAAGGACTCCCAGATCAAGAGCATCATT  
 GGCAGGCTGATGCTGGTGGAGGAGGAGTGCCTCGGGACCACCCCGCATGGCTGAGCCGCTGCCTGAGC  
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 AACGGCGAGTTCCGGAACACCGCAGACCAC

ACGCGTACGCGCGGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR231777 representing NM\_001281491  
 Red=Cloning site Green=Tags(s)

MSRSRASIHRGSIPAMSYAPFRDVRGPPMHTQYVHSPYDRPGWNPRFCII SGNQLLMLDEDEIHPLLIR  
 DRRSESSRNKLLRRTVSVPEGRPHGEHEYHLGRSRRKSVPGGKQYSMEAAPAFRPSQGFLSRRLKSS  
 IKRTKSQPKLDRTSSFRQILPRFRSADHDRARLMQSFKESHSHESLLSPSSAAEALNLDEDSIIKPVH  
 SSILGQEFCEVTTSSGTKCFACRSAAERDKWIENLQRAVKPNKDNSRRVDNVLKWIIEARELPPKKRY  
 YCELCLDDMLYARTTSKPRSASGDTVFWGEHFEFNLPVAVRALRLHL YRSDKKRKKDKAGYVGLVTVPV  
 ATLAGRHFTQWYPVTLPTGSGGSGMGSGGGGGSGGGSGGKGGKGPVAVRLKARYQTM SILPMELYKEF  
 AEYVTNHYRMLCAVLEPALNVKGKEEVASALVHILQSTGKAKDFLSDMAMSEVDRFMEREHLIFRENTLA  
 TKAIEEYMRIGQKYLKDAIGEFIRALYESEENCEVDPKCTASSLAEHQANLRMCCELALCKVVNSHCV  
 FPRELKEVFASWRLCAERGREDIADRLISASLFLRFLCPAIMSPSLFGLMQEYDPDEQTSRTLTLIAKVI  
 QNLANFSKFTSKEDFLGFMNEFLELEWGSQQFLYEISNLDTL TNSSSFEGYIDLGRELSTLHALLWEVL  
 PQLSKEALLKLGPLRLLNDISTALRNPNIQRQPSRQSERTRSQPMVLRGPAEMQGYMMRDLNSSIDLQ  
 SFMARGLNSSMDMARLPSPTKEKPPPPPPGGGKDLFYVSRPPLARSSPAYCTSSSDITEPEQKMLSVNKS  
 VSMLDLQGDGPGGRLNSSSVSNLAAVGDLLHSSQASLTAALGLRPAPAGRLSQGSSSIT AAGMRLSQMG  
 VTTDGVAQQLRIPLSFQNP LFHMAADGPGPPAGHGGSSGHGPPSSHHHHHHHHHRRGGEPGDTFAPFH  
 GYSKSEDLSSGVPKPPAASILHSHSYSDEFGPSGTDFTTRQLSLQDSLQHMLSPPQITIGQRPAPSGPG  
 GGSGGGSGGGQPPLQRGKSQLTVSAAQKPRPSSGNLLQSPPEYSYGPAPRQQLSKEGSI GGSGGGSGG  
 GGGGLKPSITKQHSQTPSTLNPTMPASERTVAWVSNMPLSADIESAHIEREEYKLKEYSKSMDESRLD  
 RVKEYEEEIHSLKERLHMSNRKLEEYERLLSQEEQTSKILMQYQARLEQSEKRLRQQQVEKDSQIKSII  
 GRMLMLVEEELRRDHPAMAEPLPEPKRLLDAQERQLPPLGPTNPRVTLAPPWNLAPPAPPPPRLQITE  
 NGEFRNTADH

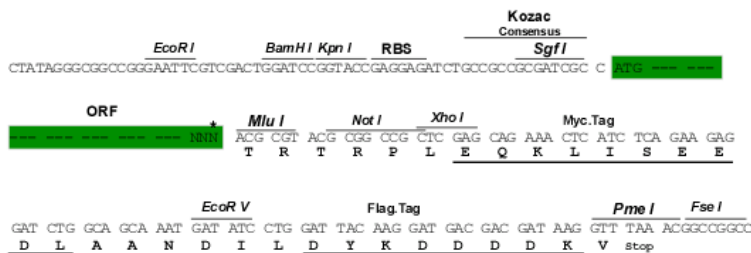
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

ACCN: NM\_001281491

ORF Size: 4020 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\\_001281491.2](#)

**RefSeq Size:** 4023 bp

**RefSeq ORF:** 4023 bp

**Locus ID:** 240057

**UniProt ID:** [F6SEU4](#)

**Cytogenetics:** 17 A3.3

**MW:** 148.7 kDa

**Gene Summary:**

This gene encodes a Ras GTPase activating protein that is a member of the N-methyl-D-aspartate receptor complex. The N-terminal domain of the protein contains a Ras-GAP domain, a pleckstrin homology domain, and a C2 domain that may be involved in binding of calcium and phospholipids. The C-terminal domain consists of a ten histidine repeat region, serine and tyrosine phosphorylation sites, and a T/SXV motif required for postsynaptic scaffold protein interaction. The encoded protein negatively regulates Ras, Rap and alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor trafficking to the postsynaptic membrane to regulate synaptic plasticity and neuronal homeostasis. Homozygous null mutations result in early post-embryonic lethality, while heterozygous mutant mice display a variety of phenotypes that include learning and memory defects, hyperactivity, and audiogenic seizures. [provided by RefSeq, Nov 2016]