

## Product datasheet for SC335231

### G protein alpha 12 (GNA12) (NM\_001282440) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	G protein alpha 12 (GNA12) (NM_001282440) Human Untagged Clone
Tag:	Tag Free
Symbol:	GNA12
Synonyms:	gep; NNX3; RMP
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>SC335231 representing NM_001282440. Blue=Insert sequence Red=Cloning site Green=Tag(s)

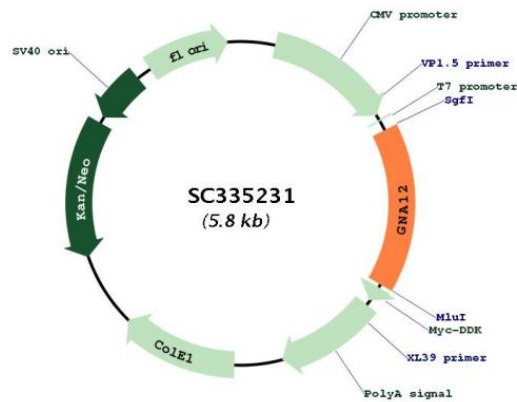
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GCTCGTTT TAGTGAACCGTCAGAATTTTGT AATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCC GCGATCGCC
ATGGCTCCACGAGCAGGGCTCGGAGCTGGCCCTCTCCTGCTTCGGAGCCGCGCTGACTGGGTGTGTGGC
GGATGGGAGGCCGCCCTGAGTGCTCCTCCTCCCTTTTGTACAGCCTGGGTGAAAGGACGGGCCTGGTG
CACTTCTGCGGGAGGGAGGACATGGGGCTGCTTCCCTCTGGCGCTCCTCCACCCGGGCAGCGTGGTT
TCTTTCCAAATGATTTATCCTCTCATCGTCTGCCGCTCTGTGCTTCATGGCATTGGGGTCTTATCCGG
AAGGGATTGTCCTTTTTGGGGGAGTCGGTGAAGTACTTCTGGACAACCTGGACCGGATCGGCCAG
CTGAATTACTTTCTAGTAAGCAAGATATCCTGCTGGCTAGGAAAGCCACCAAGGAATTGTGGAGCAT
GACTTCGTTATTAAGAAGATCCCCTTTAAGATGGTGGATGTGGCGGCCAGCGGTCCCAGCGCCAGAAG
TGGTCCAGTGCTTCGACGGGATCACGTCCATCCTGTTTCATGGTCTCCTCCAGCGAGTACGACCAGGTC
CTCATGGAGGACAGGCGACCAACCGGCTGGTGGAGTCCATGAACATCTTCGAGACCATCGTCAACAAC
AAGCTCTTCTCAACGTCTCCATCATTCTTCTCAACAAGATGGACCTCCTGGTGGAGAAGGTGAAG
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TACCTGGTCCAGTGCTTCGACAGGAAGAGACGGAACCGCAGCAAGCCACTTCCACCACCTCACCACC
GCCATCGACACCGAGAACGTCCGCTTCGTGTTCCATGCTGTGAAAGACACCATCCTGCAGGAGAACCTG
AAGGACATCATGCTGCAGTGA
ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT
TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC
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Restriction Sites: Sgfl-Mlul



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## Plasmid Map:



ACCN: NM\_001282440

Insert Size: 918 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

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\\_001282440.1](#)

RefSeq Size: 4246 bp

RefSeq ORF: 918 bp

Locus ID: 2768

Cytogenetics: 7p22.3-p22.2

Protein Families: Druggable Genome

<b>Protein Pathways:</b>	Long-term depression, MAPK signaling pathway, Regulation of actin cytoskeleton, Vascular smooth muscle contraction
<b>MW:</b>	35.2 kDa
<b>Gene Summary:</b>	<p>Guanine nucleotide-binding proteins (G proteins) are involved as modulators or transducers in various transmembrane signaling systems (PubMed:22609986, PubMed:15525651, PubMed:15240885, PubMed:17565996, PubMed:12515866, PubMed:16787920, PubMed:16705036, PubMed:23762476, PubMed:27084452). Activates effector molecule RhoA by binding and activating RhoGEFs (ARHGEF12/LARG) (PubMed:15240885, PubMed:12515866, PubMed:16202387). GNA12-dependent Rho signaling subsequently regulates transcription factor AP-1 (activating protein-1) (By similarity). GNA12-dependent Rho signaling also regulates protein phosphatase 2A activation causing dephosphorylation of its target proteins (PubMed:15525651, PubMed:17565996). Promotes tumor cell invasion and metastasis by activating RhoA/ROCK signaling pathway and up-regulating proinflammatory cytokine production (PubMed:23762476, PubMed:16787920, PubMed:16705036, PubMed:27084452). Inhibits CDH1-mediated cell adhesion in process independent from Rho activation (PubMed:11976333, PubMed:16787920). Together with NAPA promotes CDH5 localization to plasma membrane (PubMed:15980433). May play a role in the control of cell migration through the TOR signaling cascade (PubMed:22609986).[UniProtKB/Swiss-Prot Function]</p> <p>Transcript Variant: This variant (2) differs in the 5' UTR and 5' coding region compared to variant 1. The encoded isoform (2) is shorter and has a distinct N-terminus compare to isoform 1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.</p>