

Product datasheet for **SC115556**

G protein alpha 12 (GNA12) (NM_007353) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	G protein alpha 12 (GNA12) (NM_007353) Human Untagged Clone
Tag:	Tag Free
Symbol:	G protein alpha 12
Synonyms:	gep; NNX3; RMP
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>NCBI ORF sequence for NM_007353, the custom clone sequence may differ by one or more nucleotides

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ATGTCCGGGGTGGTGC GGACCTCAGCCGCTGCCTGCTGCCGGCCGAGGCCGGGGCCCGGAGCGCA  
GGGCGGGCAGCGCGCGCGACGCGGAGCGCGAGGCCCGGAGGCGTAGCCGCGACATCGACGCGTGT  
GGCCCGGAGCGGCGCGCGTCCGGCGCCTGGTGAAGATCCTGCTGCTGGGCGGGCGAGAGCGGCAAG  
TCCACGTTCTCAAGCAGATGCGCATCATCCACGCCGCGAGTTCGACCAGAAGGCGCTGCTGGAGTTCC  
GCGACACCATCTCGACAACATCCTCAAGGGCTCAAGGGTTCTTGTGATGCACGAGATAAGCTTGGCAT  
TCCTTGGCAGTATTCTGAAAATGAGAAGCATGGGATGTTCTGATGGCCTTCGAGAACAAGCGGGGCTG  
CCTGTGGAGCCGCCACCTTCCAGCTGTACGTCCGGCCCTGAGCGCACTCTGGAGGATTCTGGCATCA  
GGGAGGCTTTCAGCCGGAGAAGCGAGTTTCAGCTGGGGGAGTCGGTGAAGTACTTCTGGACAACCTGGA  
CCGGATCGGCCAGCTGAATTACTTTCCTAGTAAGCAAGATATCCTGCTGGCTAGGAAAGCCACCAAGGGA  
ATTGTGGAGCATGACTTCGTTATTAAGAAGATCCCTTTAAGATGGTGGATGTGGCGGCCACGGTCCC  
AGCGCCAGAAGTGGTCCAGTGCTTCGACGGGATCACGTCCATCCTGTTTCATGGTCTCCTCCAGCGAGTA  
CGACCAGTCTCATGGAGGACAGGCGCACCAACCGGCTGGTGGAGTCCATGAACATCTTCGAGACCATC  
GTCAACAACAAGCTCTTCTTCAACGTCTCCATCATTCTCTTCAACAAGATGGACCTCCTGGTGGAGA  
AGGTGAAGACCGTGAGCATCAAGAAGCACTTCCCGGACTTCAGGGGCGACCCGCACAGGCTGGAGGACGT  
CCAGCGCTACCTGGTCCAGTGCTTCGACAGGAAGAGACGGAACCCGAGCAAGCCACTCTTCCACCACTTC  
ACCACCGCATCGACACCGAGAACGTCCGCTTCGTGTTCCATGCTGTGAAAGACACCATCCTGCAGGAGA  
ACCTGAAGGACATCATGCTGCAGTGA
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5' Read Nucleotide Sequence:	<p>>OriGene 5' read for NM_007353 unedited</p> <pre>GCCAGCGAATTCGGCACGAGGCGGGGCGTGGGGCGGTGCCTCGGCCCGGGCTCGCCCTCG CCGGCGGGAGCGTCCATGGCCCCGGGCGCCGGCGGGGCGCGGCCGCGGCTGAGGGGCC ATGTCCGGGGTGGTGGGACCCTCAGCCGCTGCCTGTGCCGGCCGAGGCCGGCGGGGCC CGCGAGCGCAGGGCGGCATCGGCGCGCGACGCGGAGCGCGAGGCCCGGAGGCGTAGCC GCGACATCGACGCGCTGCTGGCCCGGAGCGGCGCGGTCGGGCGCCTGGTGAAGATCC TGCTGCTGGGCGGGCGAGAGCGGCAAGTCCAGTTCCCAAGCAGATGCGCATCATCC ACGGCCGCGAGTTCGACCAGAAGGCGCTGCTGGAGTTCCGCGACACCATCTTCGACAACA TCCTCAAGGGCTCAAGGGTCTTGTGATGCACGAGATAAGCTTGGCATTCTTGCCAGT ATTCTGAAAATGAGAAGCATGGGATGTTCTGATGGCCTTCGAGAACAAGCGGGGCTGC CTGTGGAGCCGGCCACCTTCCAGCTGTACGTCCCGGCCCTGAGCGCACTCTGGAGGGATT CTGGCATCAGGGAGGCTTTCAGCCGGAGAAGCGAGTTTACCTGGGGGAGTCGGTGAAGT ACTTCTGGACAACCTGGACCGGATCGGCCAGCTGAATTACTTTTCTATAAGCAAGATA TCCTGCTTGTAAAGA</pre>
3' Read Nucleotide Sequence:	<p>>OriGene 3' read for NM_007353 unedited</p> <pre>NNNNNGGTATTGCTATGGAACCGCGCCGCATNCTAGNGATCGATTTTTTTTTTTTTTTTT TTTTTTTTTAAAGCAAAGAAAGACTAATTTATTTTAATAAACATTCAGAGGCTGAGGGTG GCCAAATTTTCAAGCCAGACCCTCCCAATGTTAATACACTGTGCAAAGCTTACACCATGA ACAACGACCCGGACCACTACCATTCCAATGGGAGCCTCTGCCTTACAATACCAGTTAG ATGTCTGTGCCAGAACCCCAATAGTTACAATAAATCTTCTTTCAAGAGTTTTTT TTTTTCAATCTTGGAGTTACAATCTGACTTATTTTTCTTTTATCAAAGAAGTAGAAAA TTACAATAAGAATTCTAGAGATCTATAAATTACAGACCTATGACTCAAATCCTTGAA ACAATTTCTCTACGAACATAAGAGTTAAAAATAGATTTTCAAGTAAAACCCTATATGCGTCT TATGTGTACACAGTATAGCTATGAGGAACAGATCTTATTTTGGAGAACTTATTGTTACA TTTTTGCAATAATTGAGGCACAACCTACCTCTGCTTTTCCAACATCTTAATAAAAAAGAC AATAAGGATTAACAGTGAATTAATAAATAAAAAATACAAAAGCCTAAGGTTCTGGAGACA AAACTGACTAGAGTCTATGTGTAGCCAAGTTGTGAATGACAGTTTAGCCTTGACAGGTTT CCTTCTTCCATTACAATGTGTACAGAATTTGAAGGGGGGTGCTTTAAAAACGTCTA TTCACCGGTCCTTGGAGAGAGGGGGGAATCCCCCTTANCAGGCCAGTGCCTCGCCCG GGCGGTGGGGTCAACCGTGAACGGTCAAGACCCC</pre>
Restriction Sites:	NotI-NotI
ACCN:	NM_007353
Insert Size:	4700 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:	<ol style="list-style-type: none"> 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_007353.2 , NP_031379.2
RefSeq Size:	4398 bp
RefSeq ORF:	1146 bp
Locus ID:	2768
UniProt ID:	Q03113
Cytogenetics:	7p22.3-p22.2
Domains:	G-alpha
Protein Families:	Druggable Genome
Protein Pathways:	Long-term depression, MAPK signaling pathway, Regulation of actin cytoskeleton, Vascular smooth muscle contraction
Gene Summary:	<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 (1) represents the longest transcript and encodes the longest isoform (1).</p>