

## Product datasheet for RC214318

### G protein alpha S (GNAS) (NM\_080426) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	G protein alpha S (GNAS) (NM_080426) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	G protein alpha S
Synonyms:	AHO; C20orf45; GNAS1; GPSA; GSA; GSP; NESP; PITA3; POH; SCG6; SgVI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC214318 representing NM_080426 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGGCTGCCTCGGGAACAGTAAGACCGAGGACCAGCGCAACGAGGAGAAGGGCAGCGTGAGGCCAACAA  
AAAAGATCGAGAAGCAGCTGCAGAAGGACAAGCAGGTCTACCGGGCCACGCACCGCTGCTGCTGCTGGG  
TGCTGGAGAATCTGGTAAAAGCACCATTGTGAAGCAGATGAGGATCCTGCATGTTAATGGGTTTAAATGGA  
GACAGTGAGAAGGCAACCAAAGTGCAGGACATCAAAAACAACCTGAAAGAGGCGATTGAAACCATTGTGG  
CCGCCATGAGCAACCTGGTGCCCCCGTGGAGCTGGCCAACCCCGAGAACCAGTTCAGAGTGGACTACAT  
CCTGAGTGTGATGAACGTGCCTGACTTTGACTTCCCTCCCGAATTCTATGAGCATGCCAAGGCTCTGTGG  
GAGGATGAAGGAGTGCCTGCCTACGAACGCTCCAACGAGTACCAGCTGATTGACTGTGCCCAGTACT  
TCCTGGACAAGATCGACGTGATCAAGCAGGCTGACTATGTGCCGAGCGATCAGGACCTGCTTCGCTGCCG  
TGTCTGACTTCTGGAATCTTTGAGACCAAGTTCAGGTGGACAAAGTCAACTTCCACATGTTTGACGTG  
GGTGGCCAGCGCGATGAACGCCGCAAGTGGATCCAGTGCCTCAACGATGTGACTGCCATCATCTTCGTGG  
TGGCCAGCAGCAGCTACAACATGGTCATCCGGGAGGACAACCAGACCAACCGCTGCAGGAGGCTCTGAA  
CCTCTTCAAGAGCATCTGGAACAACAGATGGCTGCGCACCATCTCTGTGATCCTGTTCTCAACAAGCAA  
GATCTGCTCGCTGAGAAAGTCTTGGTGGGAAATCGAAGATTGAGGACTACTTTCCAGAAATTTGCTCGCT  
ACACTACTCCTGAGGATGCTACTCCCGAGCCCGGAGAGGACCCACGCGTGACCCGGGCCAAGTACTTCAT  
TCGAGATGAGTTTCTGAGGATCAGCACTGCCAGTGGAGATGGGCGTCACTACTGCTACCCTCATTTCACC  
TGCGCTGTGGACTGAGAACATCCGCCGTGTGTTCAACGACTGCCGTGACATCATTACGCGCATGCACC  
TTCGTCAGTACGAGCTGCTC

AC**CGGCCGCT**CGAGCAGAAACTCATCTCTGAAGAGGATCTGGCAGCAAATGATATCCTGGATTACA  
AGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC214318 representing NM\_080426  
 Red=Cloning site Green=Tags(s)

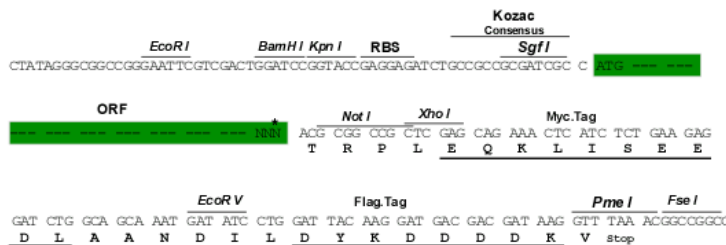
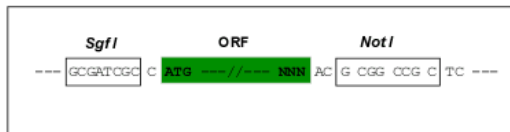
MGCLGNSKTEDQRNEEKAQREANKKIEKQLQKDKQVYRATHRLLLLGAGESGKSTIVKQMRILHVNGFNG  
 DSEKATKVQDIKNNLKEAIEIIVAAMSNLVPVELANPENQFRVDYILSVMNVPDFDFPPEFYEHAKALW  
 EDEGVRACYERSNEYQLIDCAQYFLDKIDVIKQADYVPSDQDLLRCRVLTSGIFETKFQVDKVNFMFDV  
 GGQRDERRKWIQCFNDVTAIIFVVASSYNMVIREDNQTNRLQEALNLFKSIWNNRWLRTISVILFLNKQ  
 DLLLAEKVLAGKSKIEDYFPEFARYTTPEDATPEPGEDPRVTRAKYFIRDEFRLISTASGDGRHYCYPHFT  
 CAVDTENIRRVFNDCRDI IQRMHLRQYELL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-NotI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



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

**ACCN:** NM\_080426

**ORF Size:** 1140 bp

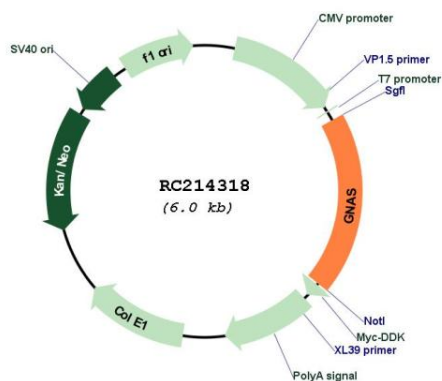
**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of 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](#)

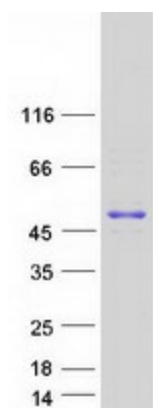
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_080426.4</a>
<b>RefSeq Size:</b>	1551 bp
<b>RefSeq ORF:</b>	1143 bp
<b>Locus ID:</b>	2778
<b>UniProt ID:</b>	<a href="#">O95467</a>
<b>Cytogenetics:</b>	20q13.32
<b>Domains:</b>	G-alpha
<b>Protein Families:</b>	Druggable Genome, Secreted Protein
<b>Protein Pathways:</b>	Calcium signaling pathway, Dilated cardiomyopathy, Gap junction, GnRH signaling pathway, Long-term depression, Melanogenesis, Taste transduction, Vascular smooth muscle contraction, Vibrio cholerae infection
<b>MW:</b>	44.1 kDa
<b>Gene Summary:</b>	<p>This locus has a highly complex imprinted expression pattern. It gives rise to maternally, paternally, and biallelically expressed transcripts that are derived from four alternative promoters and 5' exons. Some transcripts contain a differentially methylated region (DMR) at their 5' exons, and this DMR is commonly found in imprinted genes and correlates with transcript expression. An antisense transcript is produced from an overlapping locus on the opposite strand. One of the transcripts produced from this locus, and the antisense transcript, are paternally expressed noncoding RNAs, and may regulate imprinting in this region. In addition, one of the transcripts contains a second overlapping ORF, which encodes a structurally unrelated protein - Alex. Alternative splicing of downstream exons is also observed, which results in different forms of the stimulatory G-protein alpha subunit, a key element of the classical signal transduction pathway linking receptor-ligand interactions with the activation of adenylyl cyclase and a variety of cellular responses. Multiple transcript variants encoding different isoforms have been found for this gene. Mutations in this gene result in pseudohypoparathyroidism type 1a, pseudohypoparathyroidism type 1b, Albright hereditary osteodystrophy, pseudopseudohypoparathyroidism, McCune-Albright syndrome, progressive osseous heteroplasia, polyostotic fibrous dysplasia of bone, and some pituitary tumors. [provided by RefSeq, Aug 2012]</p>

Product images:



Circular map for RC214318



Coomassie blue staining of purified GNAS protein (Cat# [TP314318]). The protein was produced from HEK293T cells transfected with GNAS cDNA clone (Cat# RC214318) using MegaTran 2.0 (Cat# [TT210002]).