

Product datasheet for **RG212804**

G protein alpha S (GNAS) (NM_016592) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	G protein alpha S (GNAS) (NM_016592) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	G protein alpha S
Synonyms:	AHO; C20orf45; GNAS1; GPSA; GSA; GSP; NESP; PITA3; POH; SCG6; SgVI
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG212804 representing NM_016592 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGATCGGAGGTCCCGGGCTCAGCAGTGGCGCCGAGCTCGCCATAATTACAACGACCTGTGCCCGCCCA
TAGGCCGCGGGCAGCCACCGCGCTCCTCTGGCTCCTGCTCCATCGCGCTCCTCCGCGCCCTTGCCAC
CTCCAACGCCGTGCCAGCAGCGCGGGCTGCCAACAGCGCCGGAGCTTCTTAACGCCACCACCGC
TCCGGCGCCAGGTATTCCTGAGTCCCCGAATCGGAATCTGACCACGAGCAGGAGGCAGACCTTG
AGCTGTCCCTCCCGAGTGCCTAGAGTACGAGGAAGAGTTCGACTACGAGACCGAGAGCGAGACCGAGTC
CGAAATCGAGTCCGAGACCGACTTCGAGACCGAGCCTGAGACCGCCCCACCCTGAGCCCAGAGCCGAG
CCTGAAGACGATCGCGGCCCGGTGGTGCCCAAGCACTCCACCTTCGGCCAGTCCCTCACCCAGCGTCTGC
ACGCTCTCAAGTTGCGAAGCCCCGACGCTCCCAAGTCGCGCGCCGCCAGCACTCAGGAGCCCCAGAG
CCCCAGGGAAGGGGAGGAGCTCAAGCCCAGGACAAAGATCCAAGGGACCCCGAAGAGTCGAAGGAGCCC
AAGGAGGAGAAGCAGCGGCGTGCCTGCAAGCCAAAGAAGCCACCCGCGGTGACGCGTCCCCGGAGTCCC
CTTCAAAAAGGGACCCATCCCCATCCGGCGTCAC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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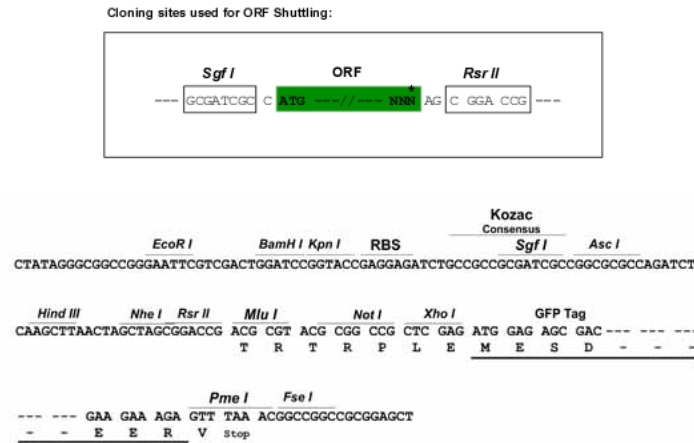
Protein Sequence: >RG212804 representing NM_016592
 Red=Cloning site Green=Tags(s)

MDRRSRAQQWRRARHNYNDLCPPIGRRAATALLWLSCSIALLRALATSNARAQQRAAAQRRSFLNAHHR
 SGAQVFPESPESESDHEHEEADLELSLPECLEYEEFFDYETESETESEIESETDFETEPETAPTTEPETE
 PEDDRGPVVPKHSTFGQSLTQRLHALKLRSPDASPSRAPSTQEPQSPREGEELKPEDKDPDPPEESKEP
 KEEKQRRRCKPKKPTRRDASPESSKKGPIIRRH

SGPTRRRLE - GFP Tag - V

Restriction Sites: SgfI-RsrII

Cloning Scheme:



ACCN: NM_016592

ORF Size: 735 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_016592.5](#)

RefSeq Size: 2566 bp

RefSeq ORF: 738 bp

Locus ID: 2778

UniProt ID: [O95467](#)

Cytogenetics: 20q13.32

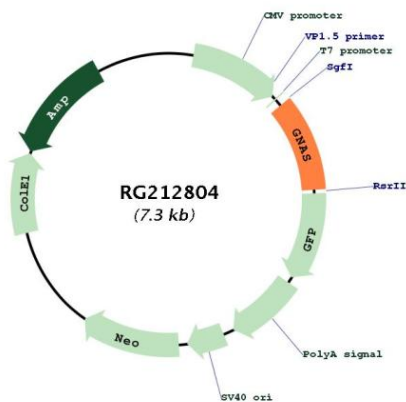
Domains: G-alpha

Protein Families: Druggable Genome, Secreted Protein

Protein Pathways: Calcium signaling pathway, Dilated cardiomyopathy, Gap junction, GnRH signaling pathway, Long-term depression, Melanogenesis, Taste transduction, Vascular smooth muscle contraction, Vibrio cholerae infection

Gene Summary: 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]

Product images:



Circular map for RG212804