

Product datasheet for **SC318458**

G protein alpha S (GNAS) (NM_080425) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	G protein alpha S (GNAS) (NM_080425) Human Untagged Clone
Tag:	Tag Free
Symbol:	GNAS
Synonyms:	AHO; C20orf45; GNAS1; GPSA; GSA; GSP; NESP; PITA3; POH; SCG6; SgVI
Vector:	<u>pCMV6 series</u>
Fully Sequenced ORF:	>NCBI ORF sequence for NM_080425, the custom clone sequence may differ by one or more nucleotides

```

ATGGGCGTGCGCAACTGCCTCTACGGCAATAATATGTCAGGACAACGCGATATCCCCCT
GAAATCGGGGAACAGCCCGAGCAACCACCTTTGGAGGCCCCAGGGGCAGCTGCCCCGGT
GCTGGGCTAGCCAGCCGAAGAGATGGAGACCGAACCCTCACAACGAGCCCATCCCC
GTCGAGAAATGATGGCGAGGCTGTGGACCCCGAGAGGTCTCCAGACCCAACCTTTCAGGTC
CTCAACCCGGCATTGAGGAAGCTGGAGCCCATGGAAGCTACAGCCACCTCCTGAGGAA
GCAATGCCCTTCGAGGCTGAACAGCCAGCTTGGGAGGCTTCTGGCCTACACTGGAGCAG
CCTGGATTCCCCAGTGGGTCCATGCAGGCCTTGAGGCCTTCGGCCAGCACTCATGGAG
CCCGGAGCCTTTCAGTGGTCCAGACCAGGCCTGGGAGGATACAGCCCTCCACCAGAAGAA
GCTATGCCCTTTGAGTTTGACGACCTGCCAGAGAGGCTGCAGTCAACTTCTCTTACAG
GTCCCAGACCTTGCTCCAGGAGGCCAGGTGCTGCAGGGGTCCCGGAGCTCCTCCCGAG
GAGCCCCAAGCCCTCAGGCCTGCAAAGGCTGGCTCCAGAGGAGGCTACAGCCCTCCCCCT
GAGGAGACTATGCCATTTGAGCTTGATGGAGAAGGATTTGGGACGACAGCCACCCCGG
GGGCTTTCCCGAGTTATCGCACAAAGTCGACGGCAGCAGCCAGTTCGCGGCAGTCGCGGC
TCGAGTGGGTCCGCCTCACTCCCGCCGGAACGCGCCTCCCCTTGGGTCCCAGGCGCC
ATCGGCAGCCCATCCCAAGAGGCTGTCAGACCTCCTTCTAACTTACGGGCAGCAGCCCC
TGGATGGAGATCTCCGGACCCCGTTTCGAGATTGGCAGCGCCCGCTGGGGTTCGACGAC
ACTCCCGTCAACATGGACAGCCCCCAATCGCGCTTGACGGCCCGCCATCAAGGTCTCC
GGAGCCCCAGATAAGAGAGAGCGAGCAGAGAGACCCCAAGTTGAGGAGGAAGCAGCAGAG
ATGGAAGGAGCCGCTGATGCCGCGGAGGGAGGAAAAGTACCCTCTCCGGGTACGGATCC
CCTGCCGCGGGGAGCCCTCAGCGGATACCGCTGCCAGGGCAGCCCTGCAGCCCCAGCC
GATCCTGACTCCGGGGCAACCCAGAAGATCCCGACTCCGGGACAGCACCAGCCGATCCT
GACTCCGGGGCATTGCGAGCCGATCCCGACTCCGGGGCAGCCCCCTGCCGCCCCAGCCGAT
CCCGACTCCGGGGCGGCCCTGACGCCCAAGCCGATCCCGACTCCGGGGCGGCCCTGAC
GCCCGAGCCGATCCAGATGCCGGGGCGGCCCTGAGGCTCCCGCCGCCCTGCGGCTGCT
GAGACCCGGGCAGCCATGTCGCCCCAGCTGCGCCAGACGAGGGGCTCCCACTGCCCA
GCCGCTTCTGCCACCCGGGCAGCCCAAGTCCGCGGGGCGGCTCTGCAGCCCTGCCTCC
GGGGCCAGACGCAAGATCCATCTCAGACCCCCAGCCCCGAGATCCAGGCTGCCGATCCG
CCTACTCCGCGGCTACTCGCGGTCTGCCTGGCGGGGCAAGTCCGAGAGCAGCCGCGGC
CGCGCGTGTACTACGATGAAGGGGTGCCAGCAGCGACGATGACTCCAGCGGAGACGAG

```



[View online »](#)

```
TCCGACGATGGGACCTCCGGATGCCTCCGCTGGTTTCAGCATCGGCGAAATCGCCGCCGC
CGAAAGCCCCAGCGCAACTTACTCCGCAACTTTCTCGTGCAAGCCTTCGGGGGCTGCTTC
GGTCGATCTGAGAGTCCCCAGCCAAAGCCTCGCGCTCTCTCAAGGTCAAGAAGGTACCC
CTGGCGGAGAAGCGCAGACAGATGCGCAAAGAAGCCCTGGAGAAGCGGGCCAGAAGCGC
GCAGAGAAGAAACGCAGTAAGCTCATCGACAAACAACCTCCAGGACGAAAAGATGGGCTAC
ATGTGTACGCACCGCCTGCTGCTTCTAGGTGCTGGAGAATCTGGTAAAAGCACCATTGTG
AAGCAGATGAGGATCCTGCATGTTAATGGGTTTAAATGGAGAGGGCGGCGAAGAGACCCG
CAGGCTGCAAGGAGCAACAGCGATGGTGAGAAGGCAACCAAGTGCAGGACATCAAAAAC
AACCTGAAAGAGGCGATTGAAACCATTGTGGCCGCCATGAGCAACCTGGTGCCCCCGTG
GAGCTGGCCAACCCCGAGAACCAGTTCAGAGTGGACTACATCCTGAGTGTGATGAACGTG
CCTGACTTTGACTTCCCTCCCGAATTCTATGAGCATGCCAAGGCTCTGTGGGAGGATGAA
GGAGTGCCTGCCTGCTACGAACGCTCCAACGAGTACCAGCTGATTGACTGTGCCAGTAC
TTCCTGGACAAGATCGACGTGATCAAGCAGGCTGACTATGTGCCGAGCGATCAGGACCTG
CTTCGCTGCCGTGCTGCTGACTTCTGGAATCTTTGAGACCAAGTTCAGGTGGACAAAGTC
AACTTCCACATGTTTGACGTGGGTGGCCAGCGCATGAACGCCGAAGTGGATCCAGTGC
TTCAACGATGTGACTGCCATCATCTTCGTGGTGGCCAGCAGCAGCTACAACATGGTCATC
CGGGAGGACAACCAAGACCAACCGCCTGCAGGAGGCTCTGAACCTTTCAAGAGCATCTGG
AACACAGATGGCTGCGCACCATCTCTGTGATCCTGTTCTCAACAAGCAAGATCTGCTC
GCTGAGAAAGTCTTGCTGGGAAATCGAAGATTGAGGACTACTTTCCAGAATTTGCTCGC
TACTACTCCTGAGGATGCTACTCCCAGCCCGGAGAGGACCCACGCGTGACCCGGGCC
AAGTACTTCATTGAGATGAGTTTCTGAGGATCAGCACTGCCAGTGGAGATGGGCGTAC
TACTGCTACCCTCATTTACCTGCGCTGTGGACTGAGAACATCCGCCGTGTGTTCAAC
GACTGCCGTGACATCATTAGCGCATGCACCTTCGTGAGTACGAGCTGCTC
```

Restriction Sites:	Please inquire
ACCN:	NM_080425
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).
OTI Annotation:	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
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:	<u>NM_080425.2</u> , <u>NP_536350.2</u>
RefSeq Size:	3784 bp
RefSeq ORF:	3114 bp

Locus ID:	2778
UniProt ID:	Q5JWF2
Cytogenetics:	20q13.32
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:	<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> <p>Transcript Variant: This variant (2, also known as GNASXL) is paternally expressed and includes an alternate 5' exon, compared to variant 1. This variant includes two overlapping open reading frames encoding isoforms XLas and Alex, respectively. This RefSeq represents isoform XLas (also known as alpha sXXL), which is a neuroendocrine-specific G-protein alpha subunit. The encoded isoform has a distinct and longer N-terminus, compared to isoform GNASL. Variants 2 and 12 both encode the same isoform (Alex). 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>