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Product datasheet for SC315599

G protein alpha S (GNAS) (NM_001077490) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	G protein alpha S (GNAS) (NM_001077490) Human Untagged Clone
Tag:	Tag Free
Symbol:	GNAS
Synonyms:	AHO; C20orf45; GNAS1; GPSA; GSA; GSP; NESP; PITA3; POH; SCG6; SgVI
Vector:	pCMV6 series

View online »

Fully Sequenced ORF:

>NCBI ORF sequence for NM_001077490, the custom clone sequence may differ by one or more nucleotides

ATGATGGCGAGGCCTGTGGACCCCCAGAGGTCTCCAGACCCAACTTTCAGGTCCTCAACC
CGGCATTCAGGGAAGCTGGAGCCCATGGAAGCTACAGCCCACCTCCTGAGGAAGCAATGC
CCTTCGAGGCTGAACAGCCCAGCTTGGGAGGCTTCTGGCCTACACTGGAGCAGCCTGGAT
TCCCCAGTGGGGTCCATGCAGGCCTTGAGGCCTTCGGCCCAGCACTCATGGAGCCCGGAG
CCTTCAGTGGTGCCAGACCAGGCCTGGGAGGATACAGCCCTCCACCAGAAGAAGCTATGC
CCTTTGAGTTTGACCAGCCTGCCCAGAGAGGCTGCAGTCAACTTCTCTTACAGGTCCCAG
ACCTTGCTCCAGGAGGCCCAGGTGCTGCAGGGGTCCCCGGAGCTCCTCCCGAGGAGCCCC
AAGCCCTCAGGCCTGCAAAGGCTGGCTCCAGAGGAGGCTACAGCCCTCCCCCTGAGGAGA
CTATGCCATTTGAGCTTGATGGAGAAGGATTTGGGGACGACAGCCCACCCCCGGGGCTTT
CCCGAGTTATCGCACAAGTCGACGGCAGCAGCCAGTTCGCGGCAGTCGCGGCCTCGAGTG
CGGTCCGCCTCACTCCCGCCGCGAACGCGCCTCCCCTCTGGGTCCCAGGCGCCATCGGCA
GCCCATCCCAAGAGGCTGTCAGACCTCCTTCTAACTTCACGGGCAGCAGCCCCTGGATGG
AGATCTCCGGACCCCCGTTCGAGATTGGCAGCGCCCCCGCTGGGGTCGACGACACTCCCG
TCAACATGGACAGCCCCCCAATCGCGCTTGACGGCCCGCCCATCAAGGTCTCCGGAGCCC
CAGATAAGAGAGAGCGAGCAGAGAGACCCCCAGTTGAGGAGGAAGCAGCAGAGATGGAAG
GAGCCGCTGATGCCGCGGAGGGAGGAAAAGTACCCTCTCCGGGGTACGGATCCCCTGCCG
CCGGGGCAGCCTCAGCGGATACCGCTGCCAGGGCAGCCCCTGCAGCCCCAGCCGATCCTG
ACTCCGGGGCAACCCCAGAAGATCCCGACTCCGGGACAGCACCAGCCGATCCTGACTCCG
GGGCATTCGCAGCCGATCCCGACTCCGGGGCAGCCCCTGCCGCCCCAGCCGATCCCGACT
CCGGGGCGGCCCCTGACGCCCCAGCCGATCCCGACTCCGGGGCGGCCCCTGACGCCCCAG
CCGATCCAGATGCCGGGGCGGCCCCTGAGGCTCCCGCCGCCCCTGCGGCTGCTGAGACCC
GGGCAGCCCATGTCGCCCCAGCTGCGCCAGACGCAGGGGCTCCCACTGCCCCAGCCGCTT
CTGCCACCCGGGCAGCCCAAGTCCGCCGGGCGGCCTCTGCAGCCCCTGCCTCCGGGGCCA
GACGCAAGATCCATCTCAGACCCCCCAGCCCCGAGATCCAGGCTGCCGATCCGCCTACTC
CGCGGCCTACTCGCGCGTCTGCCTGGCGGGGCAAGTCCGAGAGCAGCCGCGGCCGCCGCG
TGTACTACGATGAAGGGGTGGCCAGCAGCGACGATGACTCCAGCGGAGACGAGTCCGACG
ATGGGACCTCCGGATGCCTCCGCTGGTTTCAGCATCGGCGAAATCGCCGCCGCCGAAAGC
CCCAGCGCAACTTACTCCGCAACTTTCTCGTGCAAGCCTTCGGGGGCTGCTTCGGTCGAT
CTGAGAGTCCCCAGCCCAAAGCCTCGCGCTCTCTCAAGGTCAAGAAGGTACCCCTGGCGG
AGAAGCGCAGACAGATGCGCAAAGAAGCCCTGGAGAAGCGGGCCCAGAAGCGCGCAGAGA
AGAAACGCAGTAAGCTCATCGACAAACAACTCCAGGACGAAAAGATGGGCTACATGTGTA
CGCACCGCCTGCTGCTTC

Restriction Sites: Please inquire

ACCN: NM_001077490

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:	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_001077490.1, NP_001070958.1
RefSeq Size:	3784 bp
RefSeq ORF:	1881 bp
Locus ID:	2778
UniProt ID:	P84996
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:

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 reponses. 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 osseus heteroplasia, polyostotic fibrous dysplasia of bone, and some pituitary tumors. [provided by RefSeq, Aug 2012]
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 ORFs encoding XLas and Alex, respectively. This RefSeq represents Alex (also known as alexX), which has no similarity to other proteins encoded by this gene. It interacts with XLas, and their interaction is essential for G-protein signaling in neuroendocrine cells. 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.