GNAS Blocking Peptide

PRODUCT OVERVIEW

Product Name	GNAS, Blocking Peptide
Full Product Name	GNAS Peptide
Product Gene Name	GNAS blocking peptide
Product Synonym Gene Name	AHO; C20orf45; GNAS1; GNASXL; GPSA; GSA; GSP; NESP; NESP55; PHP1A; PHP1B; POH; XL2; XLalphas; PHP1C
Form/Format	Lyophilized powder
Preparation and Storage	Add 100ul of sterile PBS. Final peptide concentration is 1 mg/ml in PBS. For longer periods of storage, store at -20 degree C. Avoid repeat freeze-thaw cycles.
Antibody/Peptide Pairs	GNAS peptide (MBS3230988) is used for blocking the activity of GNAS antibody (MBS3206025)
Molecular Weight	42kDa
Product Categories/Family for GNAS blocking peptide	Peptide
Applications Tested/Suitable for GNAS blocking peptide	Western Blot (WB)
Related Product Information for GNAS blocking peptide	This is a synthetic peptide designed for use in combination with anti-GNAS antibody made Target Description: 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. 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.This gene has a highly complex imprinted expression pattern. It encodes maternally, paternally, and biallelically expressed proteins which are derived from alternatively spliced transcripts with alternate 5' exons. Each of the upstream exons is within a differentially methylated region, commonly found in imprinted genes. However, the close proximity (14 kb) of two oppositely expressed promoter regions is unusual. In addition, one of the alternate 5' exons introduces a frameshift relative to the other transcripts, resulting in one isoform which is structurally unrelated to the others. An antisense transcript exists, and may regulate imprinting in this region. Mutations in this gene result in pseudohypoparathyroidism type 1a (PHP1a), which has an atypical autosomal dominant inheritance pattern requiring maternal transmission for full penetrance. There are RefSeqs representing four transcript variants of this gene. Other transcript variants including four additional exons have been described; however, their full length sequences have not been determined.
Other Notes	Small volumes of GNAS blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for GNAS purchase	MBS3230988 is a blocking peptide targeting GNAS. Also known as GNAS Peptide.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GNAS. It may not necessarily be applicable to this product.

NCBI GI #	18426900
NCBI GeneID	2778
NCBI Accession #	NP_536351

UniProt Primary Accession #	Q5FWY2
UniProt Related Accession #	O95467; P63092; P84996; Q5JWF2
GenBank Nucleotide #	NM_080426
NCBI Official Full Name	protein GNAS isoform GNASS
NCBI Official Synonym Full Names	GNAS complex locus
NCBI Official Symbol	GNAS
NCBI Official Synonym Symbols	AHO; GSA; GSP; POH; GPSA; NESP; SCG6; SgVI; GNAS1; PITA3; C20orf45
UniProt Protein Name	GNAS complex locus
UniProt Synonym Protein Names	GNAS complex locus
Protein Family	Neuroendocrine secretory protein
UniProt Gene Name	GNAS
UniProt Entry Name	Q5FWY2_HUMAN
NCBI Protein Information	protein ALEX; protein GNAS; protein SCG6 (secretogranin VI)
NCBI Summary for GNAS	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]
Research Articles on GNAS	**1.** Activating GNAS (R201C) mutations were found in 2 unrelated patients with virilizing ovarian Leydig cell tumors. This mutation and subsequent cAMP increase may play a significant role in the pathogenesis of virilizing LCT through the stimulation of androgen production and tumor development.
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