

Product datasheet for **KN412804**

G protein alpha S (GNAS) Human Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 linear donor
Donor DNA:	EF1a-GFP-P2A-Puro
Symbol:	G protein alpha S
Locus ID:	2778
Components:	<p>KN412804G1, G protein alpha S gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GGACCAGCGCAACGAGGAGA</p> <p>KN412804G2, G protein alpha S gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GACTTTGTCCACCTGGAAC</p> <p>KN412804D, Linear donor DNA containing LoxP-EF1A-tGFP-P2A-Puro-LoxP: The sequence below is cassette sequence only. The linear donor DNA also contains proprietary target sequence.</p>

LoxP-EF1A-tGFP-P2A-Puro-LoxP (2739 bp)

ATAACTTCGT ATAATGTATG CTATACGAAG TTATCGTGAG GCTCCGGTGC CCGTCAGTGG GCAGAGCGCA
 CATCGCCAC AGTCCCGAG AAGTTGGGG GAGGGTCCG CAATTGAACC GGTGCCTAGA GAAGGTGGCG
 CGGGGTAAAC TGGGAAAGTG ATGTCGTGTA CTGGCTCCG CTTTTCCCG AGGGTGGGG AGAACCCTAT
 ATAAGTGAC TAGTCGCCGTA GAACGTTCTT TTTCCGAACG GGTTCGCCG CAGAACACAG GTAAGTGCCG
 TGTGTGGTTC CCGCGGGCCT GGCCTCTTTA CGGGTTATGG CCCTTGCGTG CCTTGAATTA CTCCACCTG
 GCTGCAGTAC GTGATTCTTG ATCCCGAGCT TCGGGTTGGA AGTGGGTGGG AGAGTCCGAG GCCTTGCGCT
 TAAGGAGCCC CTTGCGCTCG TGCTTGAGTT GAGGCCTGCG CTGGGCGCTG GGGCCGCGC GTGCGAATCT
 GGTGGCACCT TCGCGCCTGT CTCGCTGCT TCGATAAGTC TCTAGCCATT TAAAATTTTT GATGACCTGC
 TGCAGCGCT TTTTTCTGGC AAGATAGTCT TGTAATGCG GGCCAAGATC TGCACACTGG TATTTTCGTT
 TTTGGGGCG CGGGCGGCGA CGGGGCCCGT GCGTCCAGC GCACATGTTC GCGGAGGCG GGCCTGCGAG
 CGCGGCCACC GAGAATCGGA CGGGGTAGT CTCAAGCTGG CCGGCCTGCT CTGGTGCCTG GCCTCGCGCC
 GCCGTGTATC GCCCCGCCCT GGGCGGCAAG GCTGGCCCG TCGGCACCAG TTGCGTGAGC GGAAAGATGG
 CCGCTTCCG GCCCTGCTG AGGGAGCTCA AAATGGAGGA CGCGGCCTC GGGAGAGCG GCGGGTGAGT
 CACCCACACA AAGGAAAAG GCCTTCCGT CTCAGCGT CGCTTCATGT GACTCCAGG AGTACCGGGC
 GCCGTCCAG CACCTCGATT AGTTCTCGAG CTTTTGAGT ACGTCTGCT TAGGTTGGGG GGAGGGGTTT
 TATGCGATGG AGTTTCCCA CACTGAGTGG GTGGAGACTG AAGTTAGGCC AGCTTGGCAC TTGATGTAAT
 TCTCCTTGA ATTTGCCCT TTTGAGTTG GATCTTGGT CATTCTCAAG CCTCAGACAG TGGTTCAAAG
 TTTTTTCTT CCATTTCAAG TGTCGTGAAT GGAGAGCGAC GAGAGCGGCC TGCCCGCCAT GGAGATCGAG
 TGCCGCATCA CCGGCACCCT GAACGGCGTG GAGTTCGAGC TGGTGGGCGG CGGAGAGGGC ACCCCGAGC
 AGGGCCGCAT GACCAACAAG ATGAAGAGCA CCAAAGGCGC CCTGACCTTC AGCCCTACC TGCTGAGCCA
 CGTGATGGG TACGGCTTCT ACCACTTCG CACCTACCC AGCGGCTACG AGAACCCCTT CCTGCACGCC
 ATCAACAACG GCGGCTACAC CAACACCCG ATCGGAAGT ACGAGGACG CGGCGTGCT CACGTGAGCT
 TCAGTACCG CTACGAGGCC GGCCCGGTGA TCGGCGACT CAAGGTGATG GGCACCGGCT TCCCGGAGGA
 CAGCGTGATC TTCACCGACA AGATCATCCG CAGCAACGCC ACCGTGGAGC ACCTGCACCC CATGGGCGAT



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AACGATCTGG ATGGCAGCTT CACCCGCACC TTCAGCCTGC GCGACGGCGG CTACTIONACAGC TCCGTGGTGG
ACAGCCACAT GCACTTCAAG AGCGCCATCC ACCCCAGCAT CCTGCAGAAC GGGGGCCCCA TGTTGCCTT
CCGCCCGGTG GAGGAGGATC ACAGCAACAC CGAGCTGGGC ATCGTGGAGT ACCAGCACGC CTTCAAGACC
CCGGATGCAG ATGCCGGTGA AGAAAGAGGA AGCGGAGCTA CTACTIONCAG CCTGTGAAG CAGGCTGGAG
ACGTGGAGGA GAACCTTGA CCTATGACCG AGTACAAGCC CACGGTGCGC CTCGCCACCC GCGACGACGT
CCCCAGGGCC GTACGCACCC TCGCCGCCG GTTCGCCGAC TACCCCGCCA CGGCCACAC CGTCGATCCG
GACCGCCACA TCGAGCGGGT CACCGAGCTG CAAGAACTCT TCCTCACGCG CGTCGGGCTC GACATCGGCA
AGGTGTGGGT CGCGGACGAC GGCGCCCGG TGGCGGTCTG GACCACGCCG GAGAGCGTCG AAGCGGGGGC
GGTGTTCGCC GAGATCGGCC CGCGCATGGC CGAGTTGAGC GGTTCGCCG TGCCCGCGCA GCAACAGATG
GAAGGCCTCC TGGCGCCGCA CCGGCCAAG GAGCCCGCT GTTTCCTGGC CACCCTCGGC GTCTCGCCCG
ACCACCAGGG CAAGGTCTG GGCAGCGCCG TCGTGTCTCC CGGAGTGGAG GCGGCCGAGC GCGCCGGGT
GCCCGCTTC CTGGAGACCT CCGCGCCCG CAACCTCCC TTCTACGAGC GGCTCGGCTT CACCGTCACC
GCCGACGTCG AGGTGCCGA AGGACCGCG ACCTGGTGA TGACCCGAA GCCCGGTGCC TGAAACTTGT
TTATTGCAGC TTATAATGGT TACAAATAA GCAATAGCAT CACAAATTC ACAAATAAAG CATTTTTTTC
ACTGCATTCT AGTTGTGGT TGTCCAACT CATCAATGA TCTTAATAAC TTCGTATAAT GTATGCTATA CGAAGTTAT
    
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Disclaimer:

These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

RefSeq:

[NM_000516](#), [NM_001077488](#), [NM_001077489](#), [NM_001077490](#), [NM_001309840](#),
[NM_001309842](#), [NM_001309861](#), [NM_001309883](#), [NM_016592](#), [NM_080425](#), [NM_080426](#),
[NR_003259](#), [NR_132272](#), [NR_132273](#)

UniProt ID:

[Q5JWF2](#)

Synonyms:

AHO; C20orf45; GNAS1; GPSA; GSA; GSP; NESP; PHP1A; PHP1B; PHP1C; POH; SgVI

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]

Product images:
