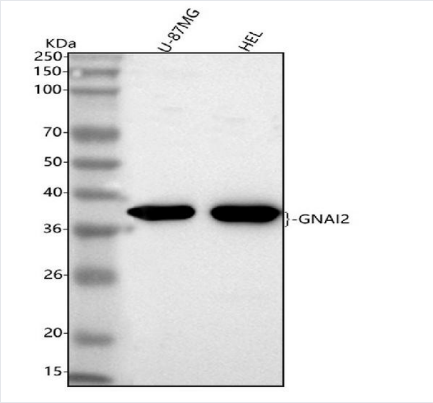
GNAI2 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

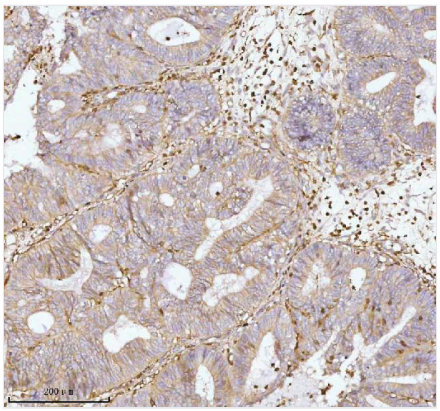
Product Name	GNAI2, Polyclonal Antibody
Full Product Name	Anti-GNAI2 Antibody Picoband
Product Gene Name	anti-GNAI2 antibody
Product Synonym Names	Serine/threonine-protein kinase AtPK1/AtPK6; 70 kDa ribosomal protein S6 kinase 1 antibody, KS6B1_HUMAN antibody, p70 alpha antibody, P70 beta 1 antibody, p70 ribosomal S6 kinase alpha antibody, p70 ribosomal S6 kinase beta 1 antibody, p70 S6 kinase alpha antibody, P70 S6 Kinase antibody, p70 S6 kinase alpha 1 antibody, p70 S6 kinase alpha 2 antibody, p70 S6K antibody, p70 S6K-alpha antibody, p70 S6KA antibody, p70(S6K) alpha antibody, p70(S6K)-alpha antibody, p70-alpha antibody, p70-S6K 1 antibody, p70-S6K antibody, P70S6K antibody, P70S6K1 antibody, p70S6Kb antibody, PS6K antibody, Ribosomal protein S6 kinase 70kDa polypeptide 1 antibody, Ribosomal protein S6 kinase beta 1 antibody, Ribosomal protein S6 kinase beta-1 antibody, Ribosomal protein S6 kinase I antibody, RPS6KB1 antibody, S6K antibody, S6K-beta-1 antibody, S6K1 antibody, Serine/threonine kinase 14 alpha antibody, Serine/threonine-protein kinase 14A antibody, STK14A antibody
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Purity/Purification	Immunogen affinity purified.
Specificity	Expressed in all tissues.
Preparation and Storage	At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.
Molecular Weight	355
OMIM	139360
3D Structure	ModBase 3D Structure for P04899
Immunogen	E coli-derived human GNAI2 recombinant protein (Position: R67-N312). Human GNAI2 shares 97.6% and 98% amino acid (aa) sequence identity with mouse and rat GNAI2, respectively.
Subcellular Localization	Cytoplasm, Nucleus
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross reactivity with other proteins.
Protein Function	Downstream effector of TOR signaling pathway involved in osmotic stress response. Could be involved in the control of plant growth and development. Phosphorylates the ribosomal proteins P14, P16 and S6. Functions as a repressor of cell proliferation and required for maintenance of chromosome stability and ploidy levels through the RBR1-E2F pathway.
Product Categories/Family for anti-GNAI2 antibody	Primary Antibodies; Signal Transduction; Signaling Pathway; Small G Proteins
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Applications Tested/Suitable for anti-GNAI2 antibody	Western Blot (WB), Immunohistochemistry (IHC), Immunocytochemistry (ICC), Immunofluorescence (IF), Flow Cytometry (FC/FACS), ELISA (EIA)

Application Notes for anti-GNAI2 antibody	WB: 0.1-0.25ug/ml, Human IHC: 2-5ug/ml, Human, Mouse, Rat ICC/IF: 5ug/ml, Human FC/FACS (Fixed): 1-3ug/1x10^6 cells, Human ELISA: 0.1-0.5ug/ml
Related Product Information for anti-GNAI2 antibody	The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Product References and Citations for anti-GNAI2 antibody	1. Blatt, C., Eversole-Cire, P., Cohn, V. H., Zollman, S., Fournier, R. E. K., Mohandas, L. T., Nesbitt, M., Lugo, T., Jones, D. T., Reed, R. R., Weiner, L. P., Sparkes, R. S., Simon, M. I. Chromosomal localization of genes encoding guanine nucleotide-binding protein subunits in mouse and human. Proc. Nat. Acad. Sci. 85: 7642-7646, 1988. 2. Hermouet, S., Merendino, J. J., Jr., Gutkind, J. S., Spiegel, A. M. Activating and inactivating mutations of the alpha subunit of G(i2) protein have opposite effects on proliferation of NIH 3T3 cells. Proc. Nat. Acad. Sci. 88: 10455-10459, 1991. 3. Itoh, H., Toyama, R., Kozasa, T., Tsukamoto, T., Matsuoka, M., Kaziro, Y. Presence of three distinct molecular species of G(i) protein alpha subunit: structure of rat cDNAs and human genomic DNAs. J. Biol. Chem. 263: 6656-6664, 1988.
Other Notes	Small volumes of anti-GNAI2 antibody 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 GNAI2 purchase	MBS1758307 is an antibody targeting GNAI2. Also known as Anti-GNAI2 Antibody Picoband. Reactive in Human, Mouse, Rat. Host: Rabbit.



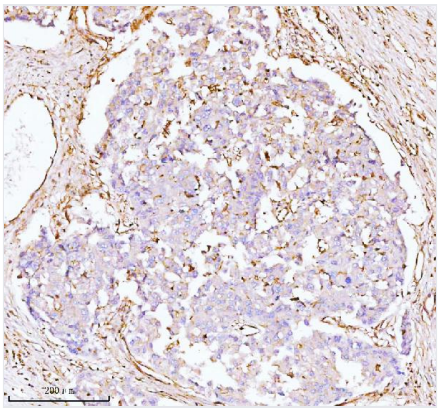
Western Blot (WB) of anti-GNAI2 antibody

Figure 1. Western blot analysis of GNAI2 using anti-GNAI2 antibody (MBS1758307).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: human U-87MG whole cell lysates,Lane 2: human HEL whole cell lysates.After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GNAI2 antigen affinity purified polyclonal antibody (#MBS1758307) at 0.25ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (#MBS176460) with Tanon 5200 system. A specific band was detected for GNAI2 at approximately 40 kDa. The expected band size for GNAI2 is at 40 kDa.



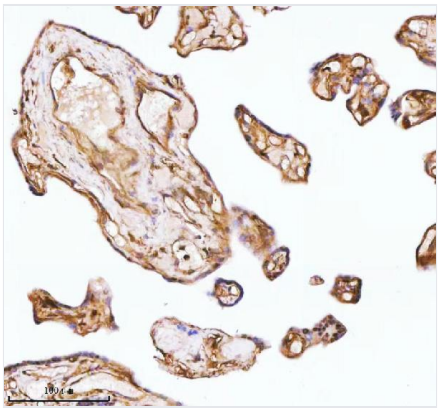
Immunohistochemistry (IHC) of anti-GNAI2 antibody

Figure 2. IHC analysis of GNAI2 using anti-GNAI2 antibody (MBS1758307).GNAI2 was detected in a paraffin-embedded section of human endometrioid adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-GNAI2 Antibody (MBS1758307) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



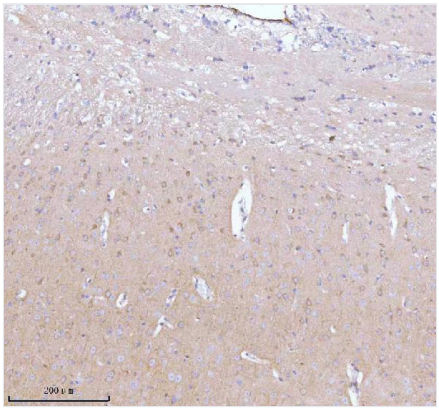
Immunohistochemistry (IHC) of anti-GNAI2 antibody

Figure 3. IHC analysis of GNAI2 using anti-GNAI2 antibody (MBS1758307).GNAI2 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-GNAI2 Antibody (MBS1758307) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



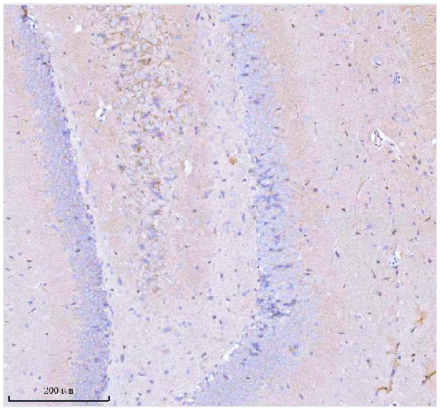
Immunohistochemistry (IHC) of anti-GNAI2 antibody

Figure 4. IHC analysis of GNAI2 using anti-GNAI2 antibody (MBS1758307).GNAI2 was detected in a paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-GNAI2 Antibody (MBS1758307) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



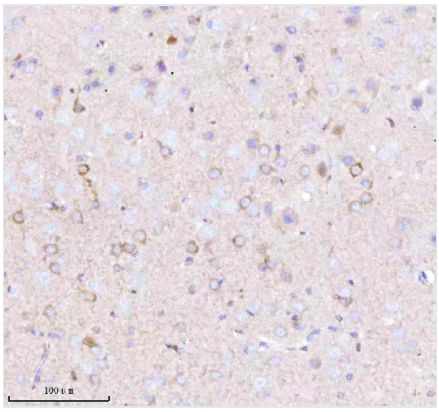
Immunohistochemistry (IHC) of anti-GNAI2 antibody

Figure 5. IHC analysis of GNAI2 using anti-GNAI2 antibody (MBS1758307).GNAI2 was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-GNAI2 Antibody (MBS1758307) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.

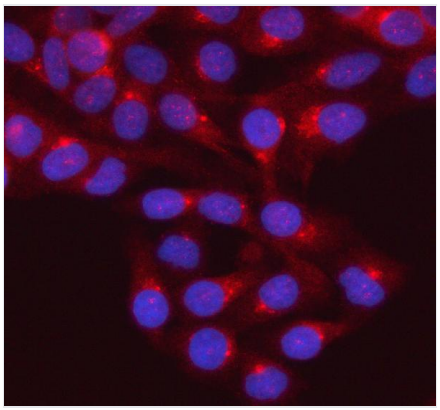


Immunohistochemistry (IHC) of anti-GNAI2 antibody

Figure 6. IHC analysis of GNAI2 using anti-GNAI2 antibody (MBS1758307).GNAI2 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-GNAI2 Antibody (MBS1758307) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



Immunohistochemistry (IHC) of anti-GNAI2 antibody
Figure 7. IHC analysis of GNAI2 using anti-GNAI2 antibody (MBS1758307).GNAI2 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-GNAI2 Antibody (MBS1758307) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



Immunofluorescence (IF) of anti-GNAI2 antibody
Figure 8. IF analysis of GNAI2 using anti-GNAI2 antibody (MBS1758307).GNAI2 was detected in an immunocytochemical section of HELA cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (#MBS176582) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-GNAI2 Antibody (MBS1758307) overnight at 4 degree C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GNAI2. It may not necessarily be applicable to this product.

NCBI GI #	121023
NCBI GeneID	2771
NCBI Accession #	P04899.3
UniProt Primary Accession #	P04899
UniProt Secondary Accession #	Q6B6N3; Q8IZ71; B3KTZ0; B4DYA0; B4E2X5
UniProt Related Accession #	P04899
NCBI Official Full Name	Guanine nucleotide-binding protein G(i) subunit alpha-2
NCBI Official Synonym Full Names	guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 2
NCBI Official Symbol	GNAI2
NCBI Official Synonym Symbols	GIP; GNAI2B; H_LUCA15.1; H_LUCA16.1
UniProt Protein Name	Guanine nucleotide-binding protein G(i) subunit alpha-2
UniProt Synonym Protein Names	Adenylate cyclase-inhibiting G alpha protein
UniProt Gene Name	GNAI2
UniProt Synonym Gene Names	GNAI2B
UniProt Entry Name	GNAI2_HUMAN
NCBI Protein Information	guanine nucleotide-binding protein G(i) subunit alpha-2; guanine nucleotide-binding protein G(i) subunit alpha-2; adenylate cyclase-inhibiting G alpha protein; GTP-binding regulatory protein Gi alpha-2 chain; guanine nucleotide-binding protein G(i), alpha
NCBI Summary for GNAI2	The protein encoded by this gene is an alpha subunit of guanine nucleotide binding proteins (G proteins). The encoded protein contains the guanine nucleotide binding site and is involved in the hormonal regulation of adenylate cyclase. Several transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Sep 2013]

UniProt Comments for GNAI2	G-alpha i2: Guanine nucleotide-binding proteins (G proteins) are involved as modulators or transducers in various transmembrane signaling systems. The G(i) proteins are involved in hormonal regulation of adenylate cyclase: they inhibit the cyclase in response to beta-adrenergic stimuli. May play a role in cell division. Belongs to the G-alpha family. G(i/o/t/z) subfamily. 4 isoforms of the human protein are produced by alternative splicing. Protein type: G protein; G protein, heterotrimeric; G protein, heterotrimeric alpha G((i/o/t/z)) Chromosomal Location of Human Ortholog: 3p21.31 Cellular Component: nucleoplasm; centrosome; membrane; cytoplasm; plasma membrane; heterotrimeric G-protein complex; midbody; cytosol; vesicle; lipid raft Molecular Function: GTPase activity; signal transducer activity; protein binding; G-protein-coupled receptor binding; GTP binding; metal ion binding; G-protein beta/gamma-subunit binding Biological Process: platelet activation; acetylcholine receptor signaling, muscarinic pathway; activation of MAPKK activity; metabolic process; negative regulation of adenylate cyclase activity; regulation of calcium ion transport; cell cycle; signal transduction; negative regulation of synaptic transmission; G-protein coupled receptor protein signaling pathway; synaptic transmission; cell proliferation; cell division; positive regulation of cell proliferation; G-protein signaling, adenylate cyclase inhibiting pathway; blood coagulation; adenosine receptor signaling pathway; gamma-aminobutyric acid signaling pathway; response to nutrient Disease: Ventricular Tachycardia, Familial
Research Articles on GNAI2	**1.** Changes in ion selectivity and pore dilation of the TRPC4 channel elicited by the Galphai2 subunit, were studied.
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