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GNAQ Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14179a

Product Information

Application	WB, E
Primary Accession	P50148
Other Accession	P38410, P82471, Q2PKF4, P21279, NP_002063.2
Reactivity	Human
Predicted	Mouse, Pig, Rat, Xenopus
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB25445
Calculated MW	42142
Antigen Region	52-78

Additional Information

Gene ID	2776
Other Names	Guanine nucleotide-binding protein G(q) subunit alpha, Guanine nucleotide-binding protein alpha-q, GNAQ, GAQ
Target/Specificity	This GNAQ antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 52-78 amino acids from the N-terminal region of human GNAQ.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GNAQ Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GNAQ
Synonyms	GAQ

Function	Guanine nucleotide-binding proteins (G proteins) function as transducers downstream of G protein-coupled receptors (GPCRs) in numerous signaling cascades (PubMed:37991948). The alpha chain contains the guanine nucleotide binding site and alternates between an active, GTP-bound state and an inactive, GDP-bound state (PubMed:37991948). Signaling by an activated GPCR promotes GDP release and GTP binding (PubMed:37991948). The alpha subunit has a low GTPase activity that converts bound GTP to GDP, thereby terminating the signal (PubMed:37991948). Both GDP release and GTP hydrolysis are modulated by numerous regulatory proteins (PubMed:37991948). Signaling is mediated via phospholipase C-beta-dependent inositol lipid hydrolysis for signal propagation: activates phospholipase C-beta: following GPCR activation, GNAQ activates PLC-beta (PLCB1, PLCB2, PLCB3 or PLCB4), leading to production of diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3) (PubMed:37991948). Required for platelet activation (By similarity). Regulates B-cell selection and survival and is required to prevent B-cell-dependent autoimmunity (By similarity). Regulates chemotaxis of BM-derived neutrophils and dendritic cells (in vitro) (By similarity). Transduces FFAR4 signaling in response to long-chain fatty acids (LCFAs) (PubMed:27852822). Together with GNA11, required for heart development (By similarity).
Cellular Location	Cell membrane; Lipid-anchor. Golgi apparatus. Nucleus {ECO:0000250|UniProtKB:P21279} Nucleus membrane {ECO:0000250|UniProtKB:P21279}. Note=Colocalizes with the adrenergic receptors, ADREN1A and ADREN1B, at the nuclear membrane of cardiac myocytes. {ECO:0000250|UniProtKB:P21279}
Tissue Location	Predominantly expressed in ovary, prostate, testis and colon. Down-regulated in the peripheral blood lymphocytes (PBLs) of rheumatoid arthritis patients (at protein level)

Background

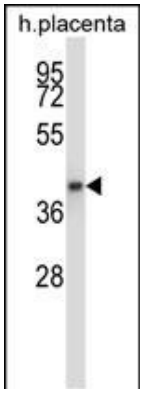
This locus encodes a guanine nucleotide-binding protein. The encoded protein, an alpha subunit in the Gq class, couples a seven-transmembrane domain receptor to activation of phospolipase C-beta. Mutations at this locus have been associated with problems in platelet activation and aggregation. A related pseudogene exists on chromosome 2.

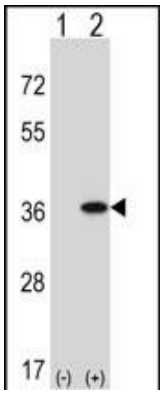
References

Dratviman-Storobinsky, O., et al. Invest. Ophthalmol. Vis. Sci. 51(12):6180-6182(2010)
Crouthamel, M., et al. Mol. Pharmacol. 78(4):767-777(2010)
Chillar, A., et al. Biochemistry 49(30):6365-6374(2010)
Klenke, S., et al. Pharmacogenet. Genomics 20(8):476-484(2010)
Salmanian, S., et al. Biochem. Biophys. Res. Commun. 395(4):577-582(2010)

Images

GNAQ Antibody (N-term) (Cat. #AP14179a) western blot analysis in human placenta tissue lysates (35ug/lane).This demonstrates the GNAQ antibody detected the GNAQ protein (arrow).





Western blot analysis of GNAQ (arrow) using rabbit polyclonal GNAQ Antibody (N-term) (Cat. #AP14179a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the GNAQ gene.