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Anti-GNAQ Picoband Antibody

Catalog # ABO12393

Product Information

Application	WB, IHC-P
Primary Accession	P50148
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Guanine nucleotide-binding protein G(q) subunit alpha(GNAQ) detection. Tested with WB, IHC-P in Human;Rat;Mouse.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	2776
Other Names	Guanine nucleotide-binding protein G(q) subunit alpha, Guanine nucleotide-binding protein alpha-q, GNAQ, GAQ
Calculated MW	42142
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Nucleus . Membrane . Nucleus membrane . Colocalizes with the adrenergic receptors, ADREN1A and ADREN1B, at the nuclear membrane of cardiac myocytes. .
Tissue Specificity	Predominantly expressed in ovary, prostate, testis and colon. Down-regulated in the peripheral blood lymphocytes (PBLs) of rheumatoid arthritis patients (at protein level). .
Source	Eukaryota
Protein Name	Guanine nucleotide-binding protein G(q) subunit alpha
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human GNAQ (102-138aa KYEHNKAHAQLVREVDVEKVSAFENPYVDAIKSLWND), identical to the related mouse and rat sequences.

Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

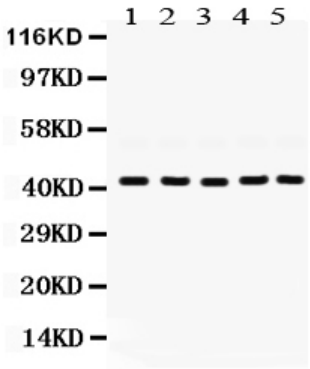
Protein Information

Name	GNAQ (HGNC:4390)
Synonyms	GAQ
Function	Guanine nucleotide-binding proteins (G proteins) function as transducers downstream of G protein-coupled receptors (GPCRs) in numerous signaling cascades (PubMed:34556863, PubMed:35672283, 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; Peripheral membrane protein; Cytoplasmic side. Golgi apparatus. Nucleus {ECO:0000250|UniProtKB:P21279} Nucleus membrane {ECO:0000250|UniProtKB:P21279}. Note=Associated to the plasma membrane via lipid-anchor (PubMed:19001095). Colocalizes with the adrenergic receptors ADRA1A and ADRA1B at the nuclear membrane of cardiac myocytes (By similarity). {ECO:0000250|UniProtKB:P21279, ECO:0000269|PubMed:19001095}
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)

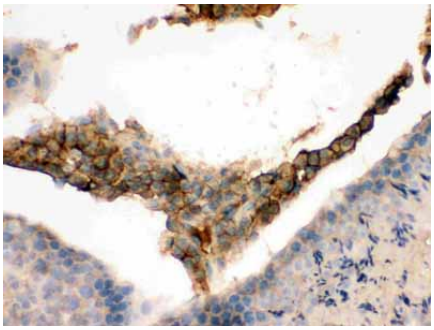
Background

Guanine nucleotide-binding protein G(q) subunit alpha is a protein that in humans is encoded by the GNAQ gene. Guanine nucleotide-binding proteins are a family of heterotrimeric proteins that couple cell surface, 7-transmembrane domain receptors to intracellular signaling pathways. Receptor activation catalyzes the exchange of GDP for GTP bound to the inactive G protein alpha subunit resulting in a conformational change and dissociation of the complex. The G protein alpha and beta-gamma subunits are capable of regulating various cellular effectors. Activation is terminated by a GTPase intrinsic to the G-alpha subunit. G-alpha-q is the alpha subunit of one of the heterotrimeric GTP-binding proteins that mediates stimulation of phospholipase C-beta. Mutations in this gene have been found associated to cases of Sturge-Weber syndrome and port-wine stains.

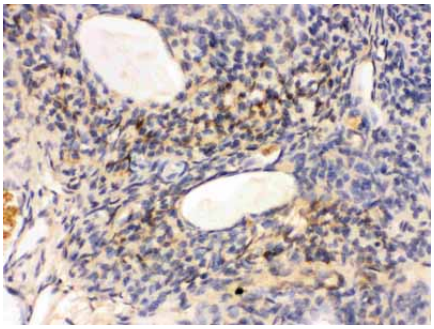
Images



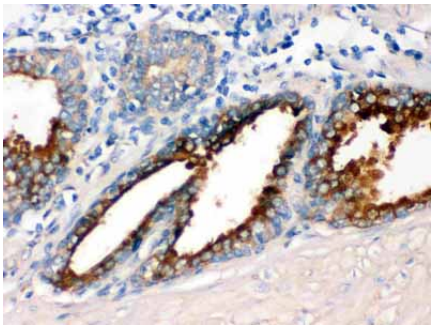
Anti- GNAQ Picoband antibody, ABO12393, Western blottingAll lanes: Anti GNAQ (ABO12393) at 0.5ug/mlLane 1: Rat Ovary Tissue Lysate at 50ugLane 2: Rat Testis Tissue Lysate at 50ugLane 3: Mouse Testis Tissue Lysate at 50ugLane 4: 22RV1 Whole Cell Lysate at 40ugLane 5: SKOV Whole Cell Lysate at 40ugPredicted bind size: 42KDObserved bind size: 42KD



Anti- GNAQ Picoband antibody, ABO12393, IHC(P)IHC(P): Mouse Testis Tissue



Anti- GNAQ Picoband antibody, ABO12393, IHC(P)IHC(P): Rat Ovary Tissue



Anti- GNAQ Picoband antibody, ABO12393, IHC(P)IHC(P): Human Prostatic Cancer Tissue

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