10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KD-Validated Anti-G protein subunit alpha q Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1960

Product Information

Application	WB, ICC
Primary Accession	P50148
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB1295
Calculated MW	42142
Gene Name	GNAQ
Aliases	G Protein Subunit Alpha Q; GAQ; G-ALPHA-Q; Guanine Nucleotide Binding Protein (G Protein), Q Polypeptide; Guanine Nucleotide-Binding Protein G(Q) Subunit Alpha; Guanine Nucleotide-Binding Protein Alpha-Q; Epididymis Secretory Sperm Binding Protein; CMAL; CMC1; SWS
Immunogen	A synthesized peptide derived from human GNAQ

Additional Information

Gene ID	2776
Other Names	Guanine nucleotide-binding protein G(q) subunit alpha, 3.6.5.-, Guanine nucleotide-binding protein alpha-q, GNAQ, GAQ

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)

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