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

Anti-GNAI1 Antibody

Catalog # AP51999

Product Information

Application	WB, IF/IC
Primary Accession	P63096
Reactivity	Human, Mouse, Rat, Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40361

Additional Information

Gene ID	2770
Other Names	Guanine nucleotide-binding protein G(i) subunit alpha-1; Adenylate cyclase-inhibiting G alpha protein
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human GNAI1. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	GNAI1
Function	Guanine nucleotide-binding proteins (G proteins) function as transducers downstream of G protein-coupled receptors (GPCRs) in numerous signaling cascades (PubMed:18434541, PubMed:33762731, PubMed:34239069, PubMed:35610220, PubMed:37935376, PubMed:37935377, PubMed:37963465, PubMed:38552625, PubMed:8774883, PubMed:38918398, PubMed:40080544). The alpha chain contains the guanine nucleotide binding site and alternates between an active, GTP-bound state and an inactive, GDP-bound state (PubMed:18434541, PubMed:8774883). Signaling by an activated GPCR promotes GDP release and GTP binding (PubMed:18434541, PubMed:8774883). The alpha subunit has a low GTPase activity that converts bound GTP to GDP, thereby terminating the signal (PubMed:18434541, PubMed:8774883). Both GDP release and GTP hydrolysis are modulated by numerous regulatory proteins (PubMed:18434541, PubMed:8774883). Signaling is mediated via effector proteins, such as adenylate cyclase: inhibits adenylate cyclase activity of ADCY1, ADCY5 and ADCY6, leading to decreased

intracellular cAMP levels (PubMed:8119955). The inactive GDP-bound form prevents the association of RGS14 with centrosomes and is required for the translocation of RGS14 from the cytoplasm to the plasma membrane. Required for normal cytokinesis during mitosis (PubMed:17635935). Required for cortical dynein-dynactin complex recruitment during metaphase (PubMed:22327364).

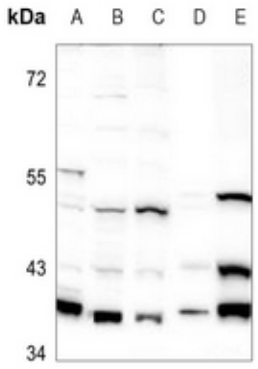
Cellular Location

Cell membrane; Peripheral membrane protein; Cytoplasmic side. Nucleus {ECO:0000250|UniProtKB:P10824} Cytoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cell cortex. Note=Associated to the plasma membrane via lipid-anchor (PubMed:20213681). Localizes in the centrosomes of interphase and mitotic cells, but not in centrosomes during cytokinesis. Detected at the cleavage furrow or the midbody (PubMed:17635935). Localized at the plasma membrane throughout mitosis (PubMed:17635935).

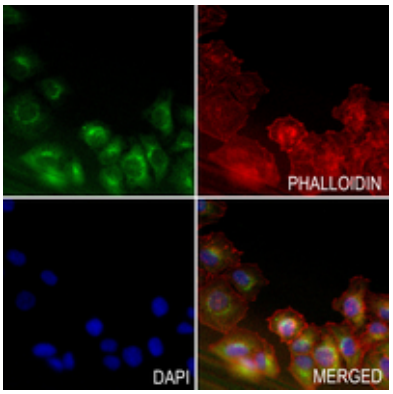
References

Puhl H.L. III,et al.Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
Yu W.,et al.Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
Wiemann S.,et al.Genome Res. 11:422-435(2001).
Kalnine N.,et al.Submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).

Images



Western blot analysis of GNAI1 expression in C6 (A), HEK293T (B), Myla2059 (C), rat brain (D), mouse brain (E) whole cell lysates. (Predicted band size: 40 kD; Observed band size: 40 kD)



Immunofluorescent analysis of GNAI1 staining in H460 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.