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G protein alpha Inhibitor 2 Rabbit pAb

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Catalog # AP59423

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P04899
Predicted	Rat, Pig, Dog, Human, Mouse, Chicken, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40451
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human G protein alpha Inhibitor 2
Epitope Specificity	21-120/355
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm. Cytoplasm, cytoskeleton, centrosome. Cell membrane. Note=Localizes in the centrosomes of interphase and mitotic cells. Detected at the cleavage furrow and/or the midbody.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The G protein family of signal transducers includes 5 heterotrimers, which are most clearly distinguished by their different alpha chains; they have virtually identical beta chains and similar gamma chains. G protein alpha inhibitor chains 1 and 2 are subunits of the G(i) G protein, whose role is in inhibiting adenylate cyclase activity in response to bound GTP.

Additional Information

Gene ID	2771
Other Names	Guanine nucleotide-binding protein G(i) subunit alpha-2, 3.6.5.-, Adenylate cyclase-inhibiting G alpha protein, GNAI2, GNAI2B
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	GNAI2
Synonyms	GNAI2B
Function	Guanine nucleotide-binding proteins (G proteins) function as transducers downstream of G protein-coupled receptors (GPCRs) in numerous signaling cascades (PubMed:38505600, PubMed:29925945, PubMed:35637350, PubMed:35365641). The alpha chain contains the guanine nucleotide binding site and alternates between an active, GTP-bound state and an inactive, GDP-bound state (PubMed:12359238). Signaling by an activated GPCR promotes GDP release and GTP binding (PubMed:29925945). Examples of interacting GPCRs include the adenosine A1 receptor/ADORA1, CNR1, and FPR2 (PubMed:29925945, PubMed:35637350, PubMed:35365641). The alpha subunit has a low GTPase activity that converts bound GTP to GDP, thereby terminating the signal. Both GDP release and GTP hydrolysis are modulated by numerous regulatory proteins (PubMed:12359238). 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. Plays an important role in the activation of the transcription factor NFAT in endothelial cells to promote angiogenesis (PubMed:38505600). The G(i) proteins are involved in hormonal regulation of adenylate cyclase: they inhibit the cyclase in response to beta-adrenergic stimuli. Plays an essential role for neutrophil recruitment in the context of acute inflammation suggesting a linked function of both GNAI2 in neutrophils and endothelial cells for polymorphonuclear neutrophils transmigration (By similarity).
Cellular Location	Cytoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cell membrane. Membrane; Lipid-anchor. Note=Localizes in the centrosomes of interphase and mitotic cells. Detected at the cleavage furrow and/or the midbody
Tissue Location	Highly expressed in endothelial cells.

Background

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