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Girdin Rabbit pAb

Catalog # AP99516

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q3V6T2
Other Accession	Q3V6T2
Predicted	Rat, Human, Mouse, Rabbit, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	216042
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human APE/Girdin
Epitope Specificity	1401-1500/1870
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the CCDC88 family.
SUBUNIT	Interacts (via C-terminus) with DISC1; the interaction is direct. Interacts with AKT proteins; the interaction is inhibited in presence of DISC1. Homodimer. The non-phosphorylated form interacts with phosphatidylinositol 4-phosphate [PI(4)P] and weakly with phosphatidylinositol 3-phosphate [PI(3)P]. Interacts with microtubules. Interacts with actin through its C-terminal domain. Interacts with the C-terminus of AKT1/PKB.
Post-translational modifications	Phosphorylation is induced by epidermal growth factor (EGF) in a phosphoinositide 3-kinase (PI3K)-dependent manner. Phosphorylation by AKT1/PKB is necessary for the delocalization from the cell membrane and for cell migration.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the Girdin family of coiled-coil domain containing proteins. The encoded protein is an actin-binding protein that is activated by the serine/threonine kinase Akt and plays a role in cytoskeleton remodeling and cell migration. The encoded protein also enhances Akt signaling by mediating phosphoinositide 3-kinase (PI3K)-dependent activation of Akt by growth factor receptor tyrosine kinases and G protein-coupled receptors. Increased expression of this gene and phosphorylation of the encoded protein may play a role in cancer metastasis. Alternatively spliced transcript variants encoding multiple isoforms have been observed for this gene. [provided by RefSeq, Dec 2011]

Additional Information

Gene ID	55704
Other Names	APE; GIRDIN; GIV; GRDN; HkRP1; KIAA1212; PEHO; PEHOL; A430106J12Rik; C130096N06Rik; C330012F17Rik; D130005J21Rik; RGD1306694;

	GRDN_HUMAN; CCDC88A; Akt phosphorylation enhancer (APE); Coiled-coil domain-containing protein 88A; G alpha-interacting vesicle-associated protein (GIV); Girders of actin filament; Hook-related protein 1 (HkRP1); GRDN_MOUSE; coiled-coil and HOOK domain protein 88A; coiled-coil domain containing 88A; Galpha-interacting vesicle-associated protein; Akt-phosphorylation enhancer; girders of actin filaments
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=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	CCDC88A
Function	Bifunctional modulator of guanine nucleotide-binding proteins (G proteins) (PubMed:19211784, PubMed:27621449). Acts as a non-receptor guanine nucleotide exchange factor which binds to and activates guanine nucleotide-binding protein G(i) alpha subunits (PubMed:19211784, PubMed:21954290, PubMed:23509302, PubMed:25187647). Also acts as a guanine nucleotide dissociation inhibitor for guanine nucleotide- binding protein G(s) subunit alpha GNAS (PubMed:27621449). Essential for cell migration (PubMed:16139227, PubMed:19211784, PubMed:20462955, PubMed:21954290). Interacts in complex with G(i) alpha subunits with the EGFR receptor, retaining EGFR at the cell membrane following ligand stimulation and promoting EGFR signaling which triggers cell migration (PubMed:20462955). Binding to Gi-alpha subunits displaces the beta and gamma subunits from the heterotrimeric G protein complex which enhances phosphoinositide 3-kinase (PI3K)-dependent phosphorylation and kinase activity of AKT1/PKB (PubMed:19211784). Phosphorylation of AKT1/PKB induces the phosphorylation of downstream effectors GSK3 and FOXO1/FKHR, and regulates DNA replication and cell proliferation (By similarity). Binds in its tyrosine-phosphorylated form to the phosphatidylinositol 3-kinase (PI3K) regulatory subunit PIK3R1 which enables recruitment of PIK3R1 to the EGFR receptor, enhancing PI3K activity and cell migration (PubMed:21954290). Plays a role as a key modulator of the AKT-mTOR signaling pathway, controlling the tempo of the process of newborn neuron integration during adult neurogenesis, including correct neuron positioning, dendritic development and synapse formation (By similarity). Inhibition of G(s) subunit alpha GNAS leads to reduced cellular levels of cAMP and suppression of cell proliferation (PubMed:27621449). Essential for the integrity of the actin cytoskeleton (PubMed:16139227, PubMed:19211784). Required for formation of actin stress fibers and lamellipodia (PubMed:15882442). May be involved in membrane sorting in the early endosome (PubMed:15882442). Plays a role in ciliogenesis and cilium morphology and positioning and this may partly be through regulation of the localization of scaffolding protein CROCC/Rootletin (PubMed:27623382).
Cellular Location	Cell membrane; Peripheral membrane protein. Cytoplasm, cytosol. Cytoplasmic vesicle. Cell projection, lamellipodium. Cytoplasm, cytoskeleton, cilium basal body. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole. Note=Localizes to the cytosol in unstimulated cells while EGF stimulation promotes membrane localization and guanine nucleotide exchange factor activity (PubMed:27864364) Localizes to the cell membrane through interaction with phosphoinositides (PubMed:15882442,

PubMed:16139227)

Tissue Location Expressed ubiquitously.

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