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

Girdin Antibody

Catalog # ASC11038

Product Information

Application	WB, IF, E
Primary Accession	Q3V6T2
Other Accession	NP_060554, 50897852
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	216042
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Girdin antibody can be used for detection of Girdin by Western blot at 1 - 2 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	55704
Other Names	Girdin, 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, CCDC88A
Target/Specificity	CCDC88A;
Reconstitution & Storage	Girdin antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	Girdin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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.

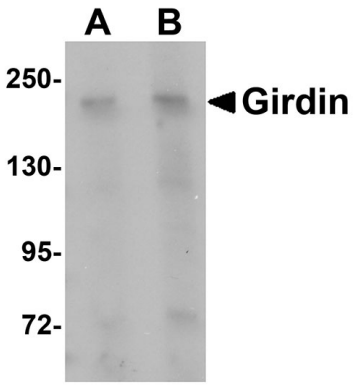
Background

Girdin Antibody: Girdin is a Galpha-interacting protein that can enhance the activation of the protein kinase Akt, remodel the actin cytoskeleton, and is thought to be involved in the regulation of cell migration and cancer metastasis. It has recently been shown that Girdin interacts with Disrupted-in-Schizophrenia 1 (DISC1), a susceptibility gene for major psychiatric disorders. DISC1 is thought to be involved in the migration, positioning and differentiation of dentate granule cells (DGCs) during development; depletion of Girdin or blocking the Girdin-DISC1 interaction results in defects in axonal sprouting in the CA3 region of the hippocampus and overextended migration of mispositioning of DGCs, suggesting the Girdin plays a role in postnatal neurogenesis in the dentate gyrus.

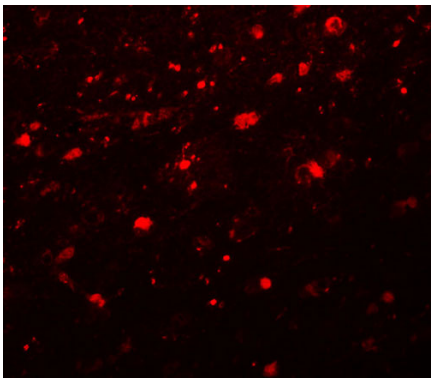
References

Le-Niculescu H, Niesman I, Fischer T, et al. Identification and characterization of GIV, a novel Galpha i/s-interacting protein found on COPI, endoplasmic reticulum-Golgi transport vesicles. J. Biol. Chem.2005; 280:22012-20.
Anai M, Shojima N, Katagiri H, et al. A novel protein kinase B (PKB)/Akt-binding protein enhances PKB kinase activity and regulates DNA synthesis. J. Biol. Chem.2005; 280:18525-35.
Enomoto A, Murakami H, Asai N, et al. Akt/PKB regulated actin organization and cell motility via Girdin/APE. Dev. Cell2005; 9:389-402.
Enomoto A, Asai N, Namba T, et al. Roles of disrupted-in-schizophrenia 1-interacting protein girdin in postnatal development of the dentate gyrus. Neuron2009; 63:774-87.

Images



Western blot analysis of Girdin in rat brain tissue lysate with Girdin antibody at (A) 1 and (B) 2 µg/mL.



Immunofluorescence of Girdin in human brain tissue with Girdin antibody at 20 µg/mL.

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