abcam

ab179481

Anti-GIV antibody [EPR18433]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR18433
Purification technique	Affinity purification Protein A
Concentration	0.801 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/150
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information 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).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Girdin also known as GIV or Girders of actin filaments plays a significant role in cell signaling. It is a multifunctional adaptor protein with a mass of approximately 220 kDa. GIV is expressed in various tissues including the brain heart and immune cells. It acts as an important player in the reorganization of the actin cytoskeleton which is critical for cellular processes like migration and adhesion.

Biological function summary	GIV is important for modulating signal transduction pathways. It interacts with G-protein coupled receptors (GPCRs) and growth factor receptors facilitating the activation of G-protein signaling. GIV does not typically function alone; it integrates into larger signaling complexes interfacing with other proteins to propagate signals downstream. Through these interactions it influences processes like cell proliferation and survival.
Pathways	GIV significantly impacts the PI3K-Akt and MAPK pathways. It acts as an upstream regulator controlling the activation of signaling cascades that determine cell fate decisions. GIV works closely with proteins such as Akt a central protein in the PI3K pathway and Grb2 linking receptor tyrosine kinases to downstream signaling mechanisms. These interactions highlight GIV's importance in mediating cellular responses to external stimuli.
Associated diseases and disorders	GIV's dysregulation links to cancer and metabolic disorders. In cancer GIV overexpression correlates with enhanced tumor progression and poor patient prognosis. GIV interacts with epidermal growth factor receptor (EGFR) to drive oncogenic signaling promoting tumor survival and growth. In metabolic disorders like diabetes alterations in GIV's signaling pathways contribute to insulin resistance. Investigations into these interactions highlight the potential for targeting GIV therapeutically using inhibitors like DUB inhibitors and PR-619.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

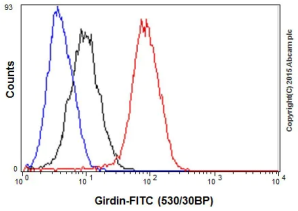
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

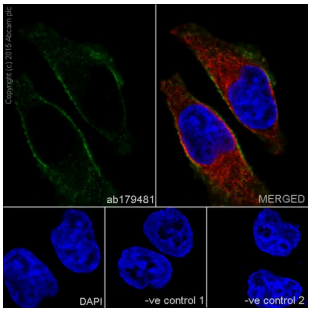
9 product images



Flow Cytometry (Intracellular) - Anti-GIV antibody [EPR18433] (ab179481)

GIV Flow Cytometry (Intracellular) staining using rabbit Anti-GIV antibody

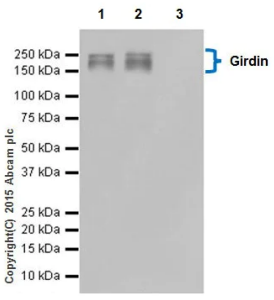
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling GIV with ab179481 at 1/150 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-GIV antibody [EPR18433] (ab179481)

GIV Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GIV antibody

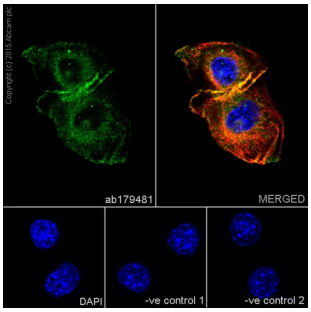
Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling GIV with ab179481 at 1/2000 dilution followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous staining on HeLa cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody-Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (AlexaFluor®594) preadsorbed (ab150120) at 1/1000 dilution (red).
The negative controls are as follows:
-ve control 1: ab179481 at 1/2000 dilution followed by ab150120 at 1/1000 dilution.
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Immunoprecipitation - Anti-GIV antibody [EPR18433] (ab179481)

GIV was immunoprecipitated from 1mg of HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate with ab179481 at 1/50 dilution. Western blot was performed from the immunoprecipitate using ab179481 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: HeLa whole cell lysate 10µg (Input).
Lane 2: ab179481 IP in HeLa whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab179481 in HeLa whole cell lysate.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 3 seconds.
All lanes:
Immunoprecipitation - Anti-GIV antibody [EPR18433] (ab179481)

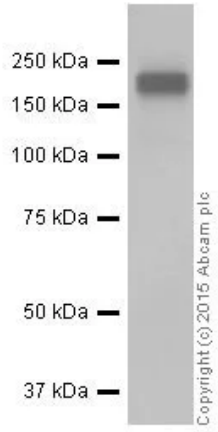
Predicted band size: 216 kDa



Immunocytochemistry/ Immunofluorescence - Anti-GIV antibody [EPR18433] (ab179481)

GIV Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GIV antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed 0.1% Triton X-100 permeabilized NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling GIV with ab179481 at 1/2000 dilution followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic and membranous staining on NIH/3T3 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody-Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (AlexaFluor®594) preadsorbed (ab150120) at 1/1000 dilution (red).
The negative controls are as follows:
-ve control 1: ab179481 at 1/2000 dilution followed by ab150120 at 1/1000 dilution.
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Western blot - Anti-GIV antibody [EPR18433] (ab179481)

Blocking/Dilution buffer: 5% NFDM/TBST.
Multiple bands represent 5 isoforms ranging from 208 to 216 kDa (PMID: 23195430; PMID: 22308453).

All lanes:
Western blot - Anti-GIV antibody [EPR18433] (ab179481) at 1/1000 dilution

All lanes:
HCT 116 (Human colorectal carcinoma cell line) whole cell lysate at 20 µg

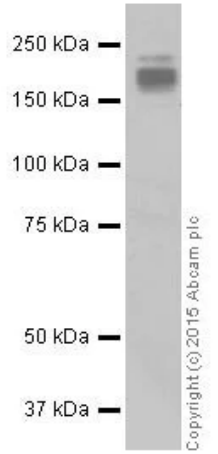
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 216 kDa

Observed band size: 208-216 kDa

Exposure time: 3min



Western blot - Anti-GIV antibody [EPR18433] (ab179481)

GIV Western blot staining of HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate using rabbit Anti-GIV antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Multiple bands represent 5 isoforms ranging from 208 to 216 kDa (PMID: 23195430; PMID: 22308453).

All lanes:
Western blot - Anti-GIV antibody [EPR18433] (ab179481) at 1/5000 dilution

All lanes:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 10 µg

Secondary

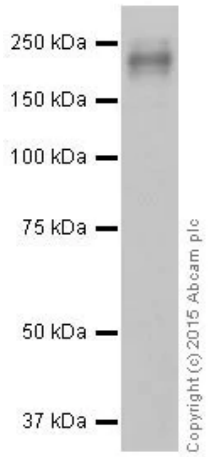
All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 216 kDa

Observed band size: 208-216 kDa

Exposure time: 1min



Western blot - Anti-GIV antibody [EPR18433] (ab179481)

Blocking/Dilution buffer: 5% NFDM/TBST.
Multiple bands represent 5 isoforms ranging from 208 to 216 kDa (PMID: 23195430; PMID: 22308453).

All lanes:
Western blot - Anti-GIV antibody [EPR18433] (ab179481) at 1/1000 dilution

All lanes:
Human fetal kidney lysate at 10 µg

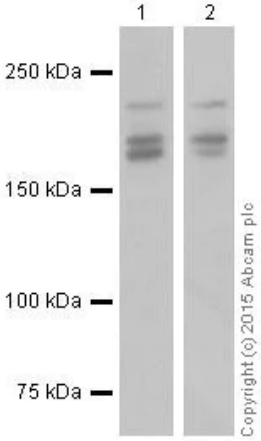
Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 132 kDa, 216 kDa

Observed band size: 160 kDa, 170 kDa, 208-216 kDa

Exposure time: 2s



Western blot - Anti-GIV antibody [EPR18433] (ab179481)

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1: 30 seconds; Lane 2: 3 minutes.

Based on UniProt annotation, mouse GIV has 3 isoforms (215, 212, 205 kDa).

All lanes:
Western blot - Anti-GIV antibody [EPR18433] (ab179481) at 1/5000 dilution

Lane 1:
Mouse brain tissue lysate at 10 µg

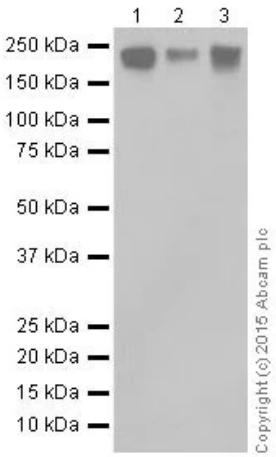
Lane 2:
Rat brain tissue lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 216 kDa

Observed band size: 208-216 kDa



Western blot - Anti-GIV antibody [EPR18433] (ab179481)

GIV Western blot staining using rabbit Anti-GIV antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Based on UniProt annotation, mouse GIV has 3 isoforms (215, 212, 205KD).

All lanes:
Western blot - Anti-GIV antibody [EPR18433] (ab179481) at 1/5000 dilution

Lane 1:
C6 (Rat glial tumor cell line) whole cell lysate at 10 µg

Lane 2:
RAW 264.7 (Mouse macrophage cell line transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 3:
PC-12 (Rat adrenal gland pheochromocytoma cell line) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 216 kDa, 69 kDa

Observed band size: 208-216 kDa, 75 kDa

Exposure time: 3min

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