abcam

ab250988

Anti-GBF1 antibody [EPR14889] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR14889
Purification technique	Affinity purification Protein A

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	For antigen retrieval, heat up to 98 degree C, below boiling, and then let cool for 10-20 minutes.

Species	Human
Dilution info	-
Notes	For antigen retrieval, heat up to 98 degree C, below boiling, and then let cool for 10-20 minutes.

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Rat, Human
Dilution info	-
Notes	-

Expected

Species	Mouse

Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information GBF1

Function

Guanine-nucleotide exchange factor (GEF) for members of the Arf family of small GTPases involved in trafficking in the early secretory pathway; its GEF activity initiates the coating of nascent vesicles via the localized generation of activated ARFs through replacement of GDP with GTP. Recruitment to cis-Golgi membranes requires membrane association of Arf-GDP and can be regulated by ARF1, ARF3, ARF4 and ARF5. Involved in the recruitment of the COPI coat complex to the endoplasmic reticulum exit sites (ERES), and the endoplasmic reticulum-Golgi intermediate (ERGIC) and cis-Golgi compartments which implicates ARF1 activation. Involved in COPI vesicle-dependent retrograde transport from the ERGIC and cis-Golgi compartments to the endoplasmic reticulum (ER) (PubMed:12047556, PubMed:12808027, PubMed:16926190, PubMed:17956946, PubMed:18003980, PubMed:19039328, PubMed:24213530). Involved in the trans-Golgi network recruitment of GGA1, GGA2, GGA3, BIG1, BIG2, and the AP-1 adaptor protein complex related to chlathrin-dependent transport; the function requires its GEF activity (probably at least in part on ARF4 and ARF5) (PubMed:23386609). Has GEF activity towards ARF1 (PubMed:15616190). Has in vitro GEF activity towards ARF5 (By similarity). Involved in the processing of PSAP (PubMed:17666033). Required for the assembly of the Golgi apparatus (PubMed:12808027, PubMed:18003980). The AMPK-phosphorylated form is involved in Golgi disassembly during mitotis and under stress conditions (PubMed:18063581, PubMed:23418352). May be involved in the COPI vesicle-dependent recruitment of PNPLA2 to lipid droplets; however, this function is under debate (PubMed:19461073, PubMed:22185782). In neutrophils, involved in G

protein-coupled receptor (GPCR)-mediated chemotaxis und superoxide production. Proposed to be recruited by phosphatidylinositol-phosphates generated upon GPCR stimulation to the leading edge where it recruits and activates ARF1, and is involved in recruitment of GIT2 and the NADPH oxidase complex (PubMed:22573891). Plays a role in maintaining mitochondrial morphology (PubMed:25190516).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab250988 is the carrier-free version of ab189512.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The Golgi Brefeldin A-Resistant Guanine Nucleotide Exchange Factor 1 (GBF1) also known by the alternate name ARFGEF1 is a protein that acts mechanically as a guanine nucleotide exchange factor (GEF) for ADP-ribosylation factor (ARF) proteins facilitating the conversion of ARF-GDP to ARF-GTP. This protein has a molecular mass of approximately 206 kDa. GBF1 is mainly expressed in the cytoplasm and localizes to the Golgi apparatus which is a central organelle for protein and lipid transport.
Biological function summary	GBF1 plays a significant role in the regulation of vesicular trafficking between the endoplasmic reticulum and the Golgi apparatus. It is an integral component of the Secretory Pathway where it aids in the recruitment of coat protein complex I (COPI) to budding vesicles. As part of a larger protein complex GBF1 collaborates with ARF proteins to activate the pathways necessary for maintaining Golgi structure and function.
Pathways	GBF1 contributes directly to the Arf protein signal transduction pathway playing a role in maintaining the Golgi structure necessary for cellular transport processes. The protein interacts with several partners within this pathway including large GTPase SAR1 and small GTPase ARF1 essential for vesicle formation. GBF1's involvement in these pathways ensures proper intracellular transport and membrane trafficking activities which are important for cell viability.
Associated diseases and disorders	GBF1 has shown a connection to disorders such as Alzheimer's disease due to its key role in intracellular trafficking which is important for amyloid precursor protein processing. Disruption in GBF1 function can lead to altered protein and lipid homeostasis linking it to metabolic disorders as well. The protein also interacts with other proteins like ARF3 in pathological conditions and disruptions in these interactions can have significant implications in disease progression.

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

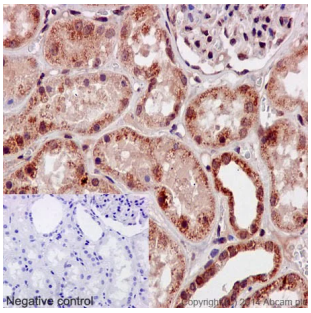
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images

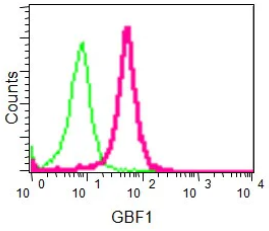


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GBF1 antibody [EPR14889] - BSA and Azide free (ab250988)

GBF1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GBF1 antibody

This data was developed using ab189512, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling GBF1 with ab189512 at 1/100 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin (Inset: negative control).

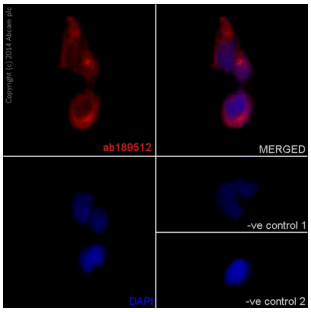
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-GBF1 antibody [EPR14889] - BSA and Azide free (ab250988)

GBF1 Flow Cytometry (Intracellular) staining using rabbit Anti-GBF1 antibody

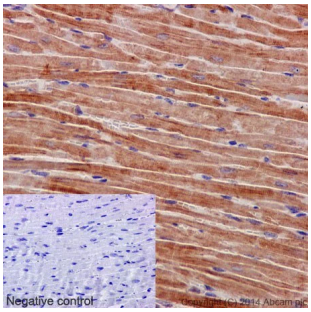
This data was developed using ab189512, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa cells labeling GBF1 with ab189512 at 1/230 dilution (red) compared to a Rabbit monoclonal IgG isotype control (green), followed by Goat anti rabbit IgG (FITC) secondary at 1/150 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-GBF1 antibody [EPR14889] - BSA and Azide free (ab250988)

GBF1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GBF1 antibody

This data was developed using ab189512, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% paraformaldehyde-fixed 293 cells labeling GBF1 with ab189512 at 1/250 dilution followed by Goat anti rabbit IgG (Alexa Fluor® 555) secondary antibody at 1/200 dilution. Counter stained with DAPI (blue).

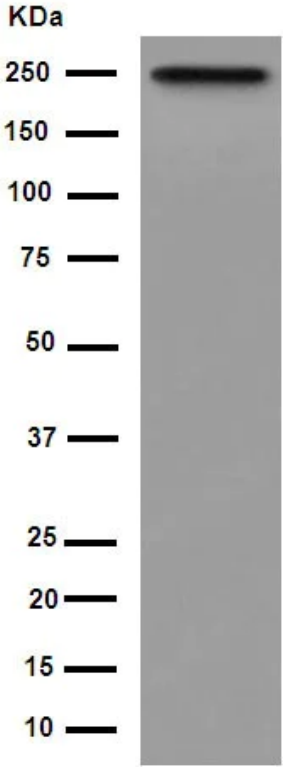


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GBF1 antibody [EPR14889] - BSA and Azide free (ab250988)

GBF1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GBF1 antibody

This data was developed using ab189512, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle tissue labeling GBF1 with ab189512 at 1/100 dilution followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin (Inset: negative control).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-GBF1 antibody [EPR14889] - BSA and Azide free (ab250988)

GBF1 Western blot staining of 293 cell lysate using rabbit Anti-GBF1 antibody

This data was developed using ab189512, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-GBF1 antibody [EPR14889] - C-terminal (ab189512) at 1/50000 dilution

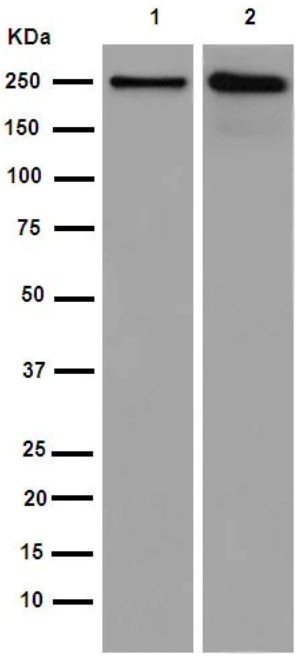
All lanes:
293 cell lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 206 kDa

Observed band size: 250 kDa



Western blot - Anti-GBF1 antibody [EPR14889] - BSA and Azide free (ab250988)

This data was developed using ab189512, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-GBF1 antibody [EPR14889] - C-terminal (ab189512) at 1/20000 dilution

Lane 1:
HeLa cell lysate at 20 µg

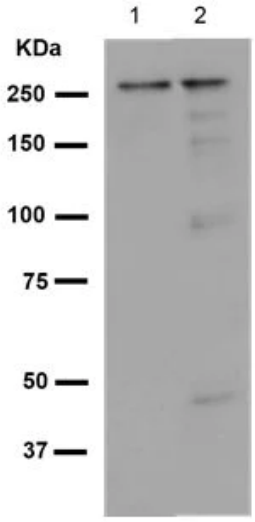
Lane 2:
Jurkat cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 206 kDa

Observed band size: 250 kDa



Western blot - Anti-GBF1 antibody [EPR14889] - BSA and Azide free (ab250988)

This data was developed using ab189512, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-GBF1 antibody [EPR14889] - C-terminal (ab189512) at 1/5000 dilution

Lane 1:
PC-12 cell lysate at 10 µg

Lane 2:
NIH/3T3 cell lysate at 10 µg

Secondary

All lanes:
Goat anti-rabbit IgG, (H+L), peroxidase conjugated at 1/1000 dilution

Predicted band size: 206 kDa

Observed band size: 250 kDa

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