abcam

ab251354

Anti-PIGK antibody [EPR17843] - 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	EPR17843
Concentration	0.992 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
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 PIGK

Function	Catalytic subunit of the glycosylphosphatidylinositol-anchor (GPI-anchor) transamidase (GPI-T) complex that catalyzes the formation of the linkage between a proprotein and a GPI-anchor and participates in GPI anchored protein biosynthesis (PubMed:10793132, PubMed:11483512, PubMed:12582175, PubMed:34576938, PubMed:35165458, PubMed:35551457, PubMed:37684232, PubMed:9356492). Recognizes diverse proproteins at a C-terminal signal peptide (CSP) region that lacks consensus sequence and replaces it with a GPI-anchor via a transamidation reaction (PubMed:35165458, PubMed:35551457, PubMed:37684232). Transamidation catalysis reaction follows a two-phase mechanism (PubMed:37684232). In the acyl-enzyme phase, the carbonyl group of the proproteins's omega-site undergoes a nucleophilic attack forming an enzyme-substrate thioester bond (PubMed:37684232). Followed by a general acid catalysis that allows CSP releasing, regenerating the carbonyl, and forming the acyl-enzyme intermediate (PubMed:37684232). In the GPI-anchor attachment phase, the amino group of the GPI-anchor's ethanolamine phosphate, the one on third mannose (EtNP3), mediates a nucleophilic attack on the carbonyl of the acyl-enzyme intermediate, replacing the CSP, allowing GPI-anchor attachment to the omega-residue, therefore forming the product and freeing the enzyme (PubMed:37684232).

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

ab251354 is the carrier-free version of ab201693.

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	PIGK also known as phosphatidylinositol glycan anchor biosynthesis class K functions as an essential component of the glycosylphosphatidylinositol (GPI) transamidase complex. This protein carries a mass of approximately 37 kDa. You find PIGK in the endoplasmic reticulum across various cell types where it assists in the post-translational modification processes required for protein anchoring to cell membranes.
Biological function summary	The GPI transamidase complex which includes PIGK facilitates the attachment of proteins to the cell membrane via GPI anchors. This activity is a critical post-translational modification essential for the functionality and localization of these proteins. Within this complex PIGK operates alongside other components such as PIGT and GPAA1 to ensure correct positioning and attachment of GPI-anchored proteins.
Pathways	PIGK contributes to the biosynthesis and remodeling of GPI-anchored proteins impacting the GPI-anchor biosynthesis pathway itself. This pathway plays an integral role in cellular processes that involve anchoring proteins like CD55 and CD59 which are important for membrane dynamics and cell surface interactions. As part of these pathways PIGK's function links closely with other proteins in the remodeling process ensuring proper protein placement and functionality.
Associated diseases and disorders	PIGK's role in GPI-anchor biosynthesis links it to various inherited GPI deficiencies. A disruption in PIGK function may contribute to neurological symptoms and developmental disorders like hyperphosphatasia with mental retardation syndrome (HPMRS). The connection between PIGK and diseases often involves interactions with other components of the GPI biosynthesis pathway such as PIGA

highlighting the significance of PIGK in maintaining cellular and physiological homeostasis.

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

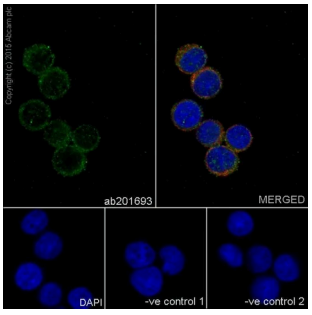
We do not recommend this combination. It is not covered by our product promise.

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



Immunocytochemistry/ Immunofluorescence - Anti-PIGK antibody [EPR17843] - BSA and Azide free (ab251354)

PIGK Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PIGK antibody

This data was developed using ab201693, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Jurkat (Human T cell leukemia cells from peripheral blood) cells labeling PIGK with ab201693 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green).

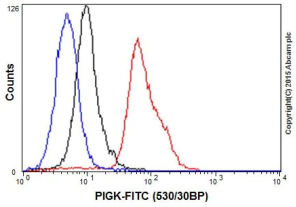
Confocal image showing cytoplasmic staining on Jurkat cell line.

The nuclear counter stain is DAPI (blue).

Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:

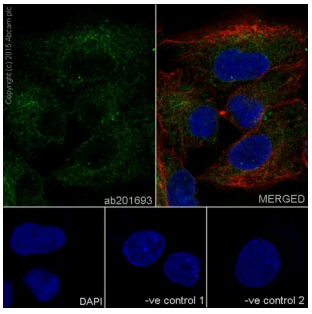
-ve control 1: ab201693 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Flow Cytometry (Intracellular) - Anti-PIGK antibody [EPR17843] - BSA and Azide free (ab251354)

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

This data was developed using ab201693, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HEK-293 (Human epithelial cells from embryonic kidney) cells labeling PIGK with ab201693 at 1/100 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 1/150 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-PIGK antibody [EPR17843] - BSA and Azide free (ab251354)

PIGK Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PIGK antibody

This data was developed using ab201693, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 100% methanol-fixed, 0.1% Triton X-100 permeabilized A549 (Human lung carcinoma) cells labeling PIGK with ab201693 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green).

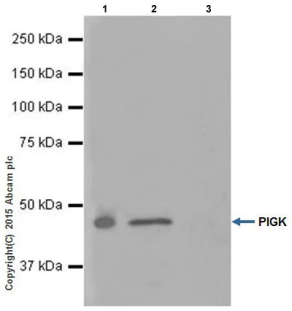
Confocal image showing cytoplasmic staining on A549 cell line.

The nuclear counter stain is DAPI (blue).

Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:

-ve control 1: ab201693 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Immunoprecipitation - Anti-PIGK antibody [EPR17843] - BSA and Azide free (ab251354)

This data was developed using ab201693, the same antibody clone in a different buffer formulation.
PIGK was immunoprecipitated from 1mg of HEK293 (Human epithelial cells from embryonic kidney) whole cell lysate with ab201693 at 1/30 dilution.

Western blot was performed from the immunoprecipitate using ab201693 at 1/2000 dilution.

VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1/1500 dilution.

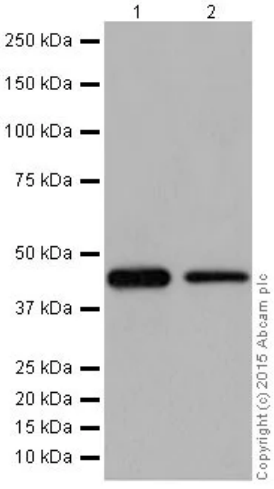
Lane 1: HEK293 whole cell lysate10 µg (Input).
Lane 2: ab201693 IP in HEK293 whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab201693 in HEK293 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds.

All lanes:
Immunoprecipitation - Anti-PIGK antibody [EPR17843] (ab201693)

Predicted band size: 45 kDa



Western blot - Anti-PIGK antibody [EPR17843] - BSA and Azide free (ab251354)

PIGK Western blot staining using rabbit Anti-PIGK antibody

This data was developed using ab201693, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-PIGK antibody [EPR17843] (ab201693) at 1/2000 dilution

Lane 1:
HT1080 (Human fibrosarcoma cells) cell lysate at 20 µg

Lane 2:
HEK-293 (Human epithelial cells from embryonic kidney) cell lysate at 20 µg

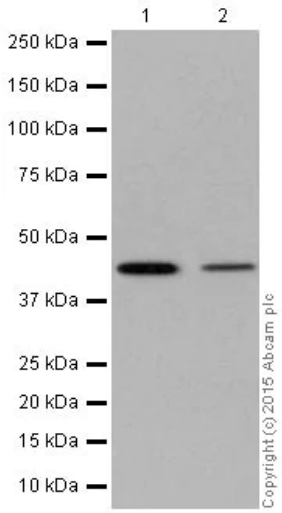
Secondary

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

Predicted band size: 45 kDa

Observed band size: 45 kDa

Exposure time: 1min



Western blot - Anti-PIGK antibody [EPR17843] - BSA and Azide free (ab251354)

PIGK Western blot staining using rabbit Anti-PIGK antibody

This data was developed using ab201693, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-PIGK antibody [EPR17843] (ab201693) at 1/2000 dilution

Lane 1:
Human pancreas lysate at 10 µg

Lane 2:
Human fetal liver lysate at 10 µg

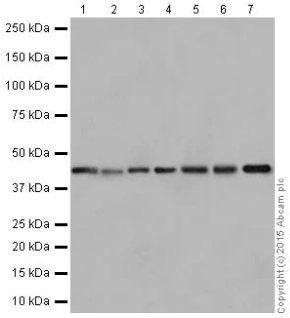
Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 45 kDa

Observed band size: 45 kDa

Exposure time: 3min



Western blot - Anti-PIGK antibody [EPR17843] - BSA and Azide free (ab251354)

PIGK Western blot staining using rabbit Anti-PIGK antibody

This data was developed using ab201693, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-PIGK antibody [EPR17843] (ab201693) at 1/2000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Mouse heart lysate at 10 µg

Lane 3:
Mouse kidney lysate at 10 µg

Lane 4:
Mouse spleen lysate at 10 µg

Lane 5:
Rat brain lysate at 10 µg

Lane 6:
Rat kidney lysate at 10 µg

Lane 7:

C6 (Rat glial tumor cells) cell lysate at 10 µg

Secondary

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

Predicted band size: 45 kDa

Observed band size: 45 kDa

Exposure time: 1min

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