abcam

ab154820

Anti-PDIA6 antibody [EPR10132(B)]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EPR10132(B)
Purification technique	Affinity purification Protein A
Concentration	0.947 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human

Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	**For unpurified use at 1/250 - 1/500.**

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information PDIA6

Function	May function as a chaperone that inhibits aggregation of misfolded proteins (PubMed:12204115). Negatively regulates the unfolded protein response (UPR)

through binding to UPR sensors such as ERN1, which in turn inactivates ERN1 signaling (PubMed:24508390). May also regulate the UPR via the EIF2AK3 UPR sensor (PubMed:24508390). Plays a role in platelet aggregation and activation by agonists such as convulxin, collagen and thrombin (PubMed:15466936).

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	PDIA6 also known as Protein Disulfide Isomerase Family A Member 6 is a protein with a molecular mass of approximately 48 kDa. This protein resides primarily in the endoplasmic reticulum (ER) where it engages in the formation and rearrangement of disulfide bonds during the protein folding process. PDIA6 also facilitates chaperone activity aiding the proper folding of nascent proteins. Its

	expression is widespread but shows higher levels in secretory tissues reflecting its involvement in protein synthesis and processing.
Biological function summary	PDIA6 plays a critical role in maintaining cellular homeostasis by ensuring correct protein folding within the ER. It interacts with various substrates and is part of a larger protein complex along with other ER-resident chaperones and foldases. This protein also responds to ER stress by assisting in the unfolded protein response (UPR) a signaling cascade that restores normal function of the ER or triggers apoptosis if the stress is unresolved.
Pathways	PDIA6 holds a significant position in the folding modification and degradation of proteins via the ER-associated degradation (ERAD) pathway. This pathway involves collaboration with proteins such as BiP and ERp72 which together prevent accumulation of misfolded proteins. PDIA6 also contributes to the cellular redox homeostasis playing an important role in maintaining the balance of oxidative states within the cell which can influence pathways like the UPR.
Associated diseases and disorders	PDIA6 associates with conditions characterized by ER stress including neurodegenerative disorders like Alzheimer's disease as well as cancer. In Alzheimer’s disease alterations in its function may affect the handling of misfolded proteins aligning it with amyloid precursor protein processing. In cancer its modulation of protein folding and stress responses links it to oncogenic pathways interacting with proteins such as p53 which can influence cell apoptosis and survival.

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

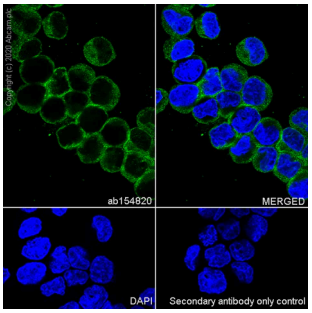
We do not recommend this combination. It is not covered by our product promise.

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:

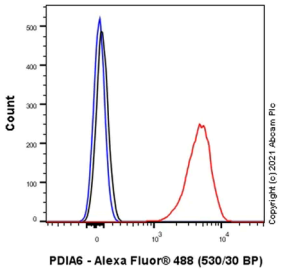
4 product images



Immunocytochemistry/ Immunofluorescence - Anti-PDIA6 antibody [EPR10132(B)] (ab154820)

PDIA6 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PDIA6 antibody

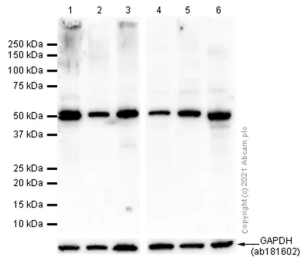
Immunocytochemistry analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labeling PDIA6 with purified ab154820 at 1:100 dilution (9.5 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as a nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-PDIA6 antibody [EPR10132(B)] (ab154820)

PDIA6 Flow Cytometry (Intracellular) staining using rabbit Anti-PDIA6 antibody

Flow Cytometry analysis of HT-1080 (Human fibrosarcoma epithelial cell) cells labelling PDIA6 with purified ab154820 at 1/100 dilution (10 µg/ml) (red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150081) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (blue).



Western blot - Anti-PDIA6 antibody [EPR10132(B)] (ab154820)

PDIA6 Western blot staining using rabbit Anti-PDIA6 antibody

All lanes:
Western blot - Anti-PDIA6 antibody [EPR10132(B)] (ab154820) at 1/1000 dilution

Lane 1:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

Lane 3:
HT-1080 (Human fibrosarcoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
Rat spleen lysate at 20 µg

Lane 5:
Rat testis lysate at 20 µg

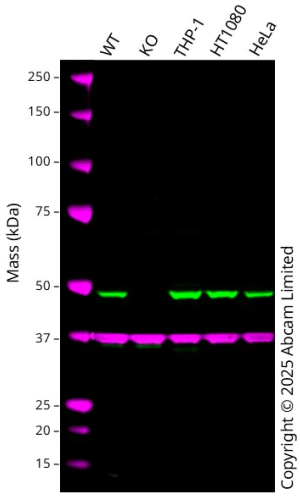
Lane 6:
Rat liver lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 48 kDa

Observed band size: 48 kDa



Western blot - Anti-PDIA6 antibody [EPR10132(B)] (ab154820)

PDIA6 Western blot staining using rabbit Anti-PDIA6 antibody

Western blot: Anti-PDIA6 antibody [EPR10132(B)] ab154820 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 49 kDa in Wild-type A549 cell lysates with no signal observed at this size in PDIA6 knockout A549 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-PDIA6 antibody [EPR10132(B)] (ab154820) at 1/1000 dilution

Lane 1:
Wild-type A549 at 20 µg

Lane 2:
PDIA6 knockout A549 at 20 µg

Lane 3:
THP-1 at 20 µg

Lane 4:
HT1080 at 20 µg

Lane 5:
HeLa at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 48 kDa

Observed band size: 49 kDa, 37 kDa

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