abcam

# ab249126

# Anti-PDIA6 antibody [EPR10132(B)] - 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** | EPR10132(B) |
| **Purification technique** | Affinity purification Protein A |

## Reactivity data

### WB

#### Tested

| | |
|---|---|
| **Species** | Rat, Human |
| **Dilution info** | - |
| **Notes** | - |

### ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Expected

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

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### 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** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Storage information** | Do Not Freeze |

## Notes

ab249126 is the carrier-free version of ab154820.

**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** | 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**

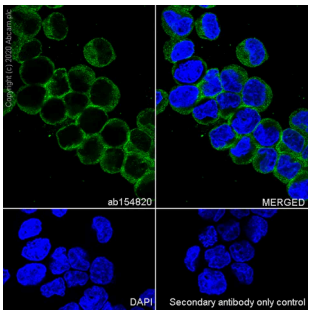
We do not recommend this combination. It is not covered by our product promise.

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:
Terms & Conditions.

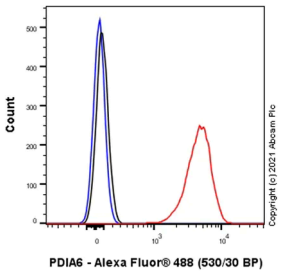
## 4 product images




### Immunocytochemistry/ Immunofluorescence - Anti-PDIA6 antibody [EPR10132(B)] - BSA and Azide free (ab249126)

PDIA6 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PDIA6 antibody

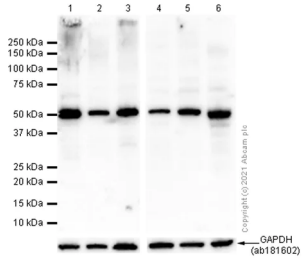
This data was developed using ab154820, the same antibody clone in a different buffer formulation.
Immunocytochemistry analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labeling PDIA6 with purified ab154820 at 1:100 dilution (9.5 µg/ml). Cells were fixed in 4% Paraformaldehyde 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)] - BSA and Azide free (ab249126)

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

This data was developed using ab154820, the same antibody clone in a different buffer formulation.
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)] - BSA and Azide free (ab249126)

PDIA6 Western blot staining using rabbit Anti-PDIA6 antibody

This data was developed using ab154820, the same antibody clone in a different buffer formulation.
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

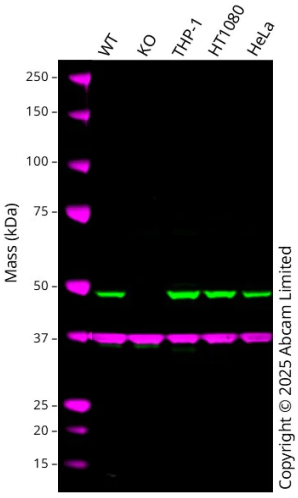
Lane 6:
Rat liver lysate at 20 µg

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)] - BSA and Azide free (ab249126)

PDIA6 Western blot staining using rabbit Anti-PDIA6 antibody

This data was developed using ab154820, the same antibody clone in a different buffer formulation.

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

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