abcam

ab250398

# Anti-ERP27 antibody [EPR12503] - 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** | EPR12503 |
| **Purification technique** | Affinity purification Protein A |
| **Specificity** | AB250398 specifically detects a band only in pancreas tissue and not in other tissues. The larger band size observed in mouse and rat tissues compared to human tissue may be due to ERP having only one glycosylation site in humans versus two in mouse and rat. |

## Reactivity data

## ICC/IF

**Tested**

| | |
|---|---|
| **Species** | Human |

| | |
|---|---|
| **Dilution info** | - |
| **Notes** | - |

### Expected

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

## WB

### Tested

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

## Flow Cyt (Intra)

### Tested

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

### Expected

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

## IHC-P

### Tested

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

| | |
|---|---|
| **Notes** | - |

### Expected

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

## Target data

See full target information ERP27

| | |
|---|---|
| **Function** | Specifically binds unfolded proteins and may recruit protein disulfide isomerase PDIA3 to unfolded substrates (PubMed:16940051, PubMed:23192347). Binds protein substrates via a hydrophobic pocket in the C-terminal domain (PubMed:16940051, PubMed:23192347). May play a role in the unfolded stress response (PubMed:23192347). |

## 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

ab250398 is the carrier-free version of ab181172.

**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** | ERP27 also known as Endoplasmic Reticulum Protein 27 is a protein component with a molecular mass of approximately 27 kDa. It resides within the endoplasmic reticulum (ER) of the cell where it participates in protein folding and processing. Expressed in many tissues ERP27 is part of the protein disulfide isomerase (PDI) family. Although its structural features do not include the typical thioredoxin-like active sites ERP27 influences protein maturation by assisting in the correct assembly and folding of nascent proteins. |
| **Biological function summary** | The protein exhibits important roles in the cellular stress response and quality control mechanisms within the endoplasmic reticulum. It does not form a stable complex with other proteins but interacts transiently to exert its function. ERP27 collaborates closely with other ER-resident proteins like ERP44 and the PDI family to enhance the checking and refolding of misfolded proteins maintaining cellular homeostasis. |
| **Pathways** | ERP27 participates directly in the unfolded protein response (UPR) pathway a critical mechanism activated during ER stress. This pathway involves ERP27's transient interactions within a network of proteins including ER chaperones and other PDIs to alleviate stress and restore normal function. Furthermore ERP27 plays a role in calcium homeostasis through these pathways interacting with proteins such as calnexin and calreticulin. |
| **Associated diseases and disorders** | ERP27's impairment or dysregulation associates with neurodegenerative diseases like Alzheimer's and Parkinson’s. The protein's involvement in the UPR links it to cellular processes that are disrupted in these conditions. Moreover it connects to proteins such as amyloid precursor protein (APP) in Alzheimer's influencing amyloid-beta peptide production. In Parkinson’s interactions with parkin and related proteins highlight ERP27's potential implications in disease pathogenesis and 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.

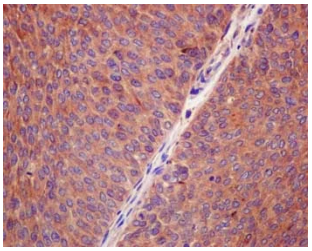
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We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

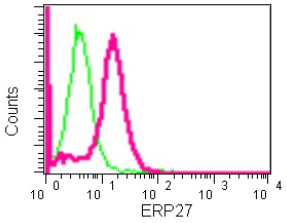


### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ERP27 antibody [EPR12503] - BSA and Azide free (ab250398)

ERP27 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ERP27 antibody

This data was developed using ab181172, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human transitional cell carcinoma of bladder tissue labeling ERP27 using ab181172 at a 1/250 dilution, using a HRP Polymer for Rabbit IgG secondary antibody and counterstained with Hematoxylin.

Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.

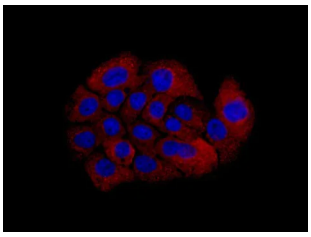



### Flow Cytometry (Intracellular) - Anti-ERP27 antibody [EPR12503] - BSA and Azide free (ab250398)

ERP27 Flow Cytometry (Intracellular) staining using rabbit Anti-ERP27 antibody

This data was developed using ab181172, the same antibody clone in a different buffer formulation.

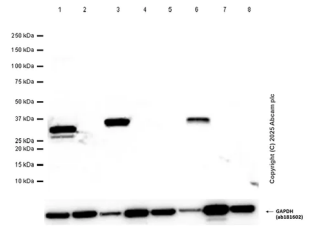
Intracellular Flow Cytometry analysis of 2% paraformaldehyde fixed HeLa cells labeling ERP27 using ab181172 at a 1/50 dilution (green) or Rabbit monoclonal IgG (red), using a Goat anti rabbit IgG (FITC) secondary antibody at a 1/150 dilution.



## Immunocytochemistry/ Immunofluorescence - Anti-ERP27 antibody [EPR12503] - BSA and Azide free (ab250398)

ERP27 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ERP27 antibody

This data was developed using ab181172, the same antibody clone in a different buffer formulation.
Immunofluorescent staining of 4% paraformaldehyde fixed BxPC-3 cells, labeling ERP27 using ab181172 at a 1/250 dilution and a Goat anti rabbit IgG (Alexa Fluor® 555) secondary antibody at a 1/200 dilution and counterstained with Dapi.



## Western blot - Anti-ERP27 antibody [EPR12503] - BSA and Azide free (ab250398)

ERP27 Western blot staining using rabbit Anti-ERP27 antibody

This data was developed using ab181172, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602).

ab181172 specifically detects a band only in pancreas tissue and not in other tissues.

The larger band size observed in mouse and rat tissues compared to human tissue may be due to ERP having only one glycosylation site in humans versus two in mouse and rat.

All lanes:
Western blot - Anti-ERP27 antibody [EPR12503] (ab181172) at 1/1000 dilution

Lane 1:
Human pancreas tissue lysate at 20 µg

Lane 2:
Human spleen tissue lysate at 20 µg

Lane 3:
Mouse pancreas tissue lysate at 20 µg

Lane 4:
Mouse heart tissue lysate at 20 µg

Lane 5:
Mouse spleen tissue lysate at 20 µg

Lane 6:
Rat pancreas tissue lysate at 20 µg

Lane 7:
Rat heart tissue lysate at 20 µg

Lane 8:
Rat spleen tissue lysate at 20 µg

Secondary

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

Observed band size: 30-35 kDa

Exposure time: 7s

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