abcam

ab181172

Anti-ERP27 antibody [EPR12503]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR12503
Purification technique	Affinity purification Protein A
Specificity	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.
Concentration	0.258 - 0.266 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Rat

Dilution info	1/1000 - 1/2000
Notes	-

Species	Human
Dilution info	1/1000 - 1/2000
Notes	-

Species	Mouse
Dilution info	1/1000 - 1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

Species	Mouse
Dilution info	1/100 - 1/250
Notes	-

Species	Rat
Dilution info	1/100 - 1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	1/50
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Rat
Dilution info	1/50
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

Species	Mouse
Dilution info	1/100 - 1/250
Notes	-

Species	Rat
Dilution info	1/100 - 1/250
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	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	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

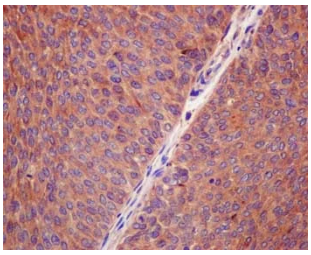
We do not recommend this combination. It is not covered by our product promise.

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.

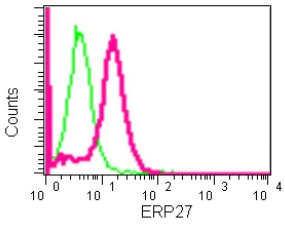
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ERP27 antibody [EPR12503] (ab181172)

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

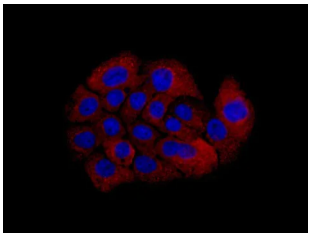
Immunohistochemical analysis of paraffin-embedded Human transitional cell carcinoma of bladder tissue labeling ERP27 using ab181172 at a 1/250 dilution using a HRP Polymer for Rabbit IgG secondary antibody and counterstained with Hematoxylin.
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-ERP27 antibody [EPR12503] (ab181172)

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

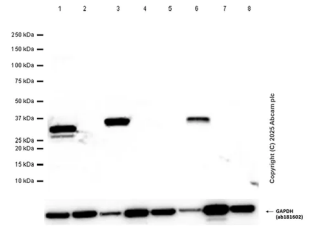
Intracellular Flow Cytometry analysis of2% paraformaldehyde fixed HeLa cells labeling ERP27 using ab181172 at a 1/50 dilution (green) or Rabbit monoclonal IgG (red), using aGoat anti rabbit IgG (FITC) secondary antibody at a 1/150 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-ERP27 antibody [EPR12503] (ab181172)

ERP27 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ERP27 antibody

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] (ab181172)

ERP27 Western blot staining using rabbit Anti-ERP27 antibody

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

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