abcam

ab126715

Anti-FKBP51 antibody [EPR6617]

Recombinant | RabMAb | KO Validated | 20ul selling size

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	EPR6617
Purification technique	Affinity purification Protein A
Dissociation constant	7.1 x 10^{-11} M
Concentration	0.291 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Rat
Dilution info	1/250
Notes	**For unpurified use at 1/50 - 1/100.**

	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Human
Dilution info	1/250
Notes	**For unpurified use at 1/50 - 1/100.** Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Expected

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

WB

Tested

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

Expected

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

ICC/IF

Tested

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

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
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 FKBP5

Function Immunophilin protein with PPIase and co-chaperone activities (PubMed:11350175). Component of unligated steroid receptors heterocomplexes through interaction with heat-shock protein 90 (HSP90). Plays a role in the intracellular trafficking of heterooligomeric forms of steroid hormone receptors maintaining the complex into the cytoplasm when unliganded (PubMed:12538866). Acts as a regulator of Akt/AKT1 activity by promoting the interaction between Akt/AKT1 and PHLPP1, thereby enhancing dephosphorylation and subsequent activation of Akt/AKT1 (PubMed:28147277, PubMed:28363942). Interacts with

IKBKE and IKBKB which facilitates IKK complex assembly leading to increased IKBKE and IKBKB kinase activity, NF-kappa-B activation, and IFN production (PubMed:26101251, PubMed:31434731).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

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	FKBP51 also known as FKBP5 is an immunophilin protein with a molecular mass around 51 kDa. It functions as a peptidyl-prolyl isomerase that assists protein folding by catalyzing the cis-trans isomerization of prolyl bonds. FKBP51 is expressed in various tissues including the brain liver kidney and skeletal muscle. The protein serves multiple mechanical roles including the modulation of protein receptor complexes and interaction with other molecular chaperones.
Biological function summary	FKBP51 plays a role in cellular stress responses and steroid receptor signaling. It is part of large complexes such as the glucocorticoid receptor complex where it modulates receptor sensitivity and translocation to the nucleus. FKBP51 influences the stress hormone pathway by affecting the receptor's binding affinity and contributing to the regulation of inflammatory responses. By playing a regulatory

	role in hormonal signaling FKBP51 impacts several biological processes including development and metabolism.
Pathways	FKBP51 interacts with the hypothalamus-pituitary-adrenal (HPA) axis and the AKT/mTOR signaling pathway. It interacts with proteins like Hsp90 and PHLPP impacting stress response and cellular growth regulation. The modulation of these pathways affects stress-related behaviors and cellular homeostasis. FKBP51's interaction with the HPA axis plays a significant role in stress response regulation making it an essential component of the body's adaptation mechanisms.
Associated diseases and disorders	FKBP51 has strong associations with mood disorders and cancer. Its upregulation correlates with stress-related psychiatric conditions such as depression impacting the function of other stress-related proteins like glucocorticoid receptors. In cancer FKBP51 modulates tumor growth and survival pathways interacting with proteins involved in cell proliferation and death such as the AKT protein. Understanding FKBP51's role in these conditions helps identify potential therapeutic targets for treatment.

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

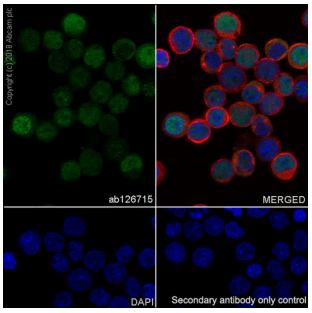
We do not recommend this combination. It is not covered by our product promise.

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.

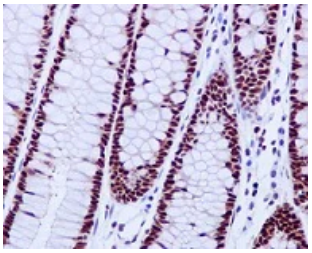
10 product images



Immunocytochemistry/ Immunofluorescence - Anti-FKBP51 antibody [EPR6617] (ab126715)

FKBP51 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-FKBP51 antibody

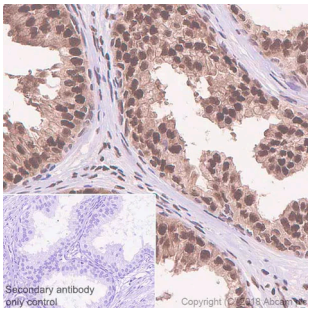
Immunocytochemistry/ Immunofluorescence analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling FKBP51 with purified ab126715 at 1:100 dilution (2.9 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
Alexa Fluor® 488 (ab198978) and Alexa Fluor® 647 (ab198979) conjugated versions are available for this clone.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FKBP51 antibody [EPR6617] (ab126715)

FKBP51 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-FKBP51 antibody

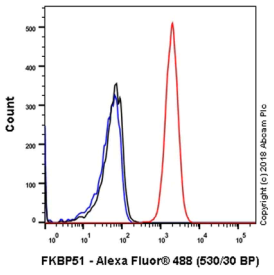
ab126715, at 1/50 dilution, stains FKBP51 in paraffin embedded human colon tissue by immunohistochemistry.
Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FKBP51 antibody [EPR6617] (ab126715)

FKBP51 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-FKBP51 antibody

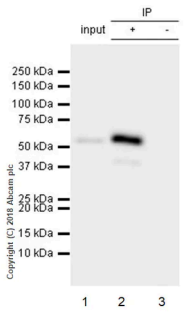
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human prostatic hyperplasia tissue sections labeling FKBP51 with purified ab126715 at 1:250 dilution (1.156 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use)was used as the secondary antibody. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Flow Cytometry (Intracellular) - Anti-FKBP51 antibody [EPR6617] (ab126715)

FKBP51 Flow Cytometry (Intracellular) staining using rabbit Anti-FKBP51 antibody

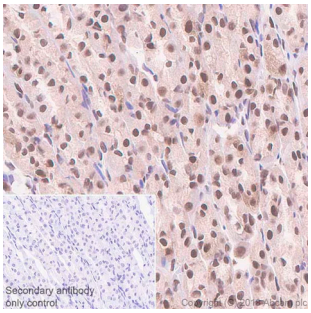
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling FKBP51 with purified ab126715 at 1/20 dilution (10µg/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluorr® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).
Alexa Fluorr®488 (ab198978) and Alexa Fluorr®647 (ab198979) conjugated versions are available for this clone.



Immunoprecipitation - Anti-FKBP51 antibody [EPR6617] (ab126715)

ab126715 (purified) at 1:20 dilution (2µg) immunoprecipitating FKBP51 in Jurkat whole cell lysate.
Lane 1 (input): Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate 10µg
Lane 2 (+): ab126715 & Jurkat whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab126715 in Jurkat whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-FKBP51 antibody [EPR6617] (ab126715)

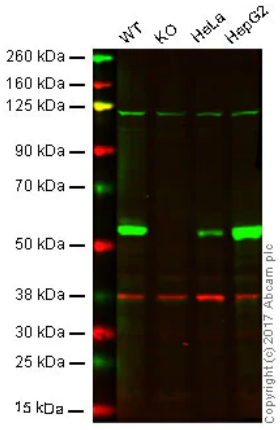
Predicted band size: 51 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FKBP51 antibody [EPR6617] (ab126715)

FKBP51 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-FKBP51 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat stomach tissue sections labeling FKBP51 with purified ab126715 at 1:250 dilution (1.156 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use)was used as the secondary antibody. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-FKBP51 antibody [EPR6617] (ab126715)

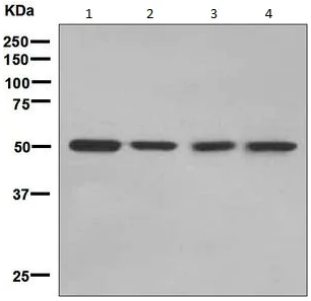
FKBP51 Western blot staining using rabbit Anti-FKBP51 antibody

Lane 1: Wild-type HAP1 whole cell lysate (20 µg)
Lane 2: FKBP51 knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lane 4: HepG2 whole cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab126715 observed at 51 kDa. Red - loading control, ab9484, observed at 37 kDa.

ab126715 was shown to recognize FKBP51 in wild-type cells as signal was lost at the expected MW in FKBP51 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and FKBP51 knockout samples were subjected to SDS-PAGE. ab126715 and ab9484 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-FKBP51 antibody [EPR6617] (ab126715)

Predicted band size: 51 kDa



Western blot - Anti-FKBP51 antibody [EPR6617] (ab126715)

All lanes:
Western blot - Anti-FKBP51 antibody [EPR6617] (ab126715) at 1/1000 dilution

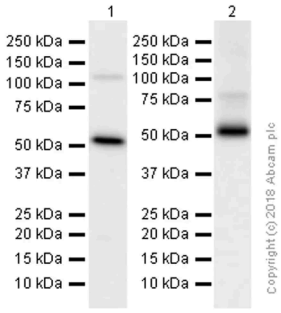
Lane 1:
Human testis cell lysate

Lane 2:
Jurkat cell lysate

Lane 3:
Caco-2 cell lysate

Lane 4:
HeLa cell lysate

Predicted band size: 51 kDa



Western blot - Anti-FKBP51 antibody [EPR6617] (ab126715)

All lanes:
Western blot - Anti-FKBP51 antibody [EPR6617] (ab126715) at 1/10000 dilution

Lane 1:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysates at 15 µg

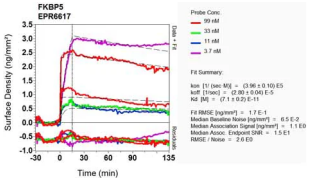
Lane 2:
Rat spleen lysates at 15 µg

Secondary

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

Predicted band size: 51 kDa

Observed band size: 51 kDa



OI-RD Scanning - Anti-FKBP51 antibody [EPR6617] (ab126715)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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