abcam

ab192036

Anti-Pin1 antibody [EPR18546-317]

Recombinant | RabMAb

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	EPR18546-317
Purification technique	Affinity purification Protein A
Concentration	0.516 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Target data

See full target information Pin1

Function

Peptidyl-prolyl cis/trans isomerase (PPIase) that binds to and isomerizes specific phosphorylated Ser/Thr-Pro (pSer/Thr-Pro) motifs (PubMed:29686383, PubMed:30893596). By inducing conformational changes in a subset of phosphorylated proteins, acts as a molecular switch in multiple cellular processes (PubMed:29686383, PubMed:30893596). Displays a preference for an acidic residue N-terminal to the isomerized proline bond. Regulates mitosis presumably by interacting with NIMA and attenuating its mitosis-promoting activity. Down-regulates kinase activity of BTK. Can transactivate multiple oncogenes and induce centrosome amplification, chromosome instability and cell transformation. Required for the efficient dephosphorylation and recycling of RAF1 after mitogen activation (By similarity). Binds and targets PML and BCL6 for degradation in a phosphorylation-dependent manner (PubMed:17828269). Acts as a regulator of JNK cascade by binding to phosphorylated FBXW7, disrupting FBXW7 dimerization and promoting FBXW7 autoubiquitination and degradation: degradation of FBXW7 leads to subsequent stabilization of JUN (By similarity). May facilitate the ubiquitination and proteasomal degradation of RBBP8/CtIP through CUL3/KLHL15 E3 ubiquitin-protein ligase complex, hence favors DNA double-strand repair through error-prone non-homologous end joining (NHEJ) over error-free, RBBP8-mediated homologous recombination (HR) (By similarity). Upon IL33-induced lung inflammation, catalyzes cis-trans isomerization of phosphorylated IRAK3/IRAK-M, inducing IRAK3 stabilization, nuclear translocation and expression of pro-inflammatory genes in dendritic cells (PubMed:29686383). Catalyzes cis-trans isomerization of phosphorylated phosphoglycerate kinase PGK1 under hypoxic conditions to promote its binding to the TOM complex and targeting to the mitochondrion (By similarity). Acts as a negative regulator of adipocyte browning

by binding to phosphorylated PRDM16, targeting PRDM16 for degradation (PubMed:30893596).

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	Pin1 also known as Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1 is a small isomerase enzyme with a molecular weight of approximately 18 kDa. This protein is unique because of its specificity for phosphorylated serine/threonine-proline bonds. Pin1 catalyzes the cis-trans isomerization of these bonds with high efficiency. Expression of the Pin1 protein occurs widely across various tissues such as the brain heart and liver. It predominantly functions in the cytoplasm and nucleus where it modulates the activity of its target proteins by inducing conformational changes.

Biological function summary	Pin1 is essential in regulating cell cycle progression and cellular signaling. It influences a variety of cellular processes including cell proliferation transcriptional regulation and apoptosis. By altering the conformation of specific phosphorylated proteins Pin1 ensures the precise control of cell cycle checkpoints impacting the stability of many proteins such as cyclin D1 and p53. Despite not being part of a large protein complex Pin1 interacts with numerous other proteins thereby coordinating complex regulatory networks essential for maintaining normal cell function.
Pathways	Pin1 plays an important role in both the Wnt signaling pathway and the MAPK signaling pathway. In the Wnt pathway Pin1 maintains stability and the accumulation of β-catenin which affects transcription of target genes critical for cell proliferation. Within the MAPK pathway Pin1 regulates the activity of proteins like c-Jun and ERK1/2 which are vital for transmitting extracellular signals to cellular responses. Through these pathways Pin1 helps modulate responses to external stimuli and maintains cellular homeostasis by adjusting protein function dynamically in response to changes in phosphorylation status.
Associated diseases and disorders	Changes in Pin1 activity have been linked to cancer and Alzheimer's disease. In cancer increased Pin1 expression accelerates the degradation of tumor suppressor proteins like p53 contributing to uncontrolled cell proliferation and reduced apoptosis. In Alzheimer's disease Pin1 dysfunction leads to the accumulation of phosphorylated tau protein which forms neurofibrillary tangles and disrupts normal neuronal function. Through these connections Pin1 represents a potential therapeutic target for developing treatments aimed at restoring balance in these pathways and alleviating disease symptoms.

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

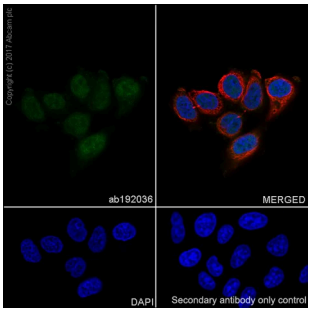
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images

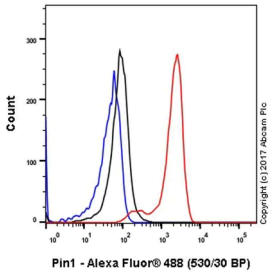


Immunocytochemistry/ Immunofluorescence - Anti-Pin1 antibody [EPR18546-317] (ab192036)

Pin1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Pin1 antibody

Immunofluorescent analysis of 4% PFA-fixed, 0.1% Triton X-100 permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling Pin1 with ab192036 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic and nuclear staining on HeLa cells.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

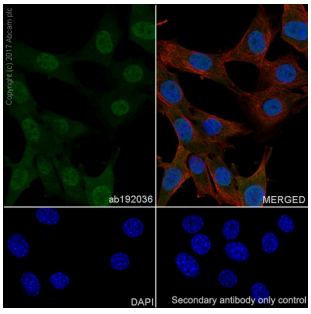
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-Pin1 antibody [EPR18546-317] (ab192036)

Pin1 Flow Cytometry (Intracellular) staining using rabbit Anti-Pin1 antibody

Intracellular flow cytometric analysis of 4% PFA-fixed, 90% methanol permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cell line labeling Pin1with ab192036 at 1/500 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.

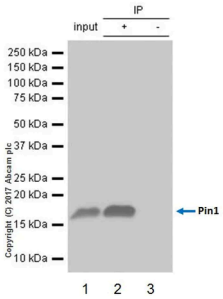


Immunocytochemistry/ Immunofluorescence - Anti-Pin1 antibody [EPR18546-317] (ab192036)

Pin1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Pin1 antibody

Immunofluorescent analysis of 4% PFA-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (mouse embryonic fibroblast cell line) cells labeling Pin1 with ab192036 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic and nuclear staining on NIH/3T3 cells.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Immunoprecipitation - Anti-Pin1 antibody [EPR18546-317] (ab192036)

Pin1 was immunoprecipitated from 0.35 mg of NIH/3T3 (mouse embryonic fibroblast cell line) lysate with ab192036 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab192036 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: NIH/3T3 whole cell lysate 10 µg (Input).

Lane 2: ab192036 IP in NIH/3T3 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab192036 in NIH/3T3 whole cell lysate.

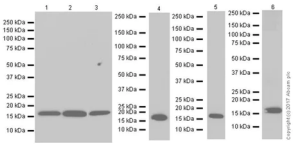
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 2 seconds.

All lanes:
Immunoprecipitation - Anti-Pin1 antibody [EPR18546-317] (ab192036)

Predicted band size: 18 kDa

Observed band size: 18 kDa



Western blot - Anti-Pin1 antibody [EPR18546-317] (ab192036)

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure times: Lanes 1-3: 15 seconds; Lanes 4-6: 30 seconds.

All lanes:
Western blot - Anti-Pin1 antibody [EPR18546-317] (ab192036) at 1/5000 dilution

Lane 1:
HeLa (human epithelial cell line from cervix adenocarcinoma) cell lysate at 20 µg

Lane 2:
MCF7 (human breast adenocarcinoma cell line) cell lysate at 20 µg

Lane 3:
C6 (rat glial tumor cell line) cell lysate at 20 µg

Lane 4:
NIH/3T3 (mouse embryonic fibroblast cell line) cell lysate at 20 µg

Lane 5:
Mouse brain lysate at 20 µg

Lane 6:
Rat brain lysate at 20 µg

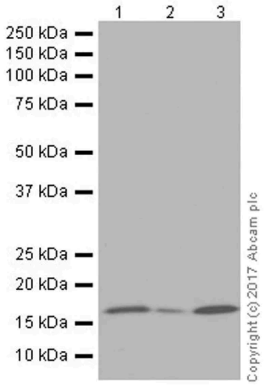
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Developed using the ECL technique.

Predicted band size: 18 kDa

Observed band size: 18 kDa



Western blot - Anti-Pin1 antibody [EPR18546-317] (ab192036)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Pin1 antibody [EPR18546-317] (ab192036) at 1/2000 dilution

Lane 1:
Human fetal brain lysate at 10 µg

Lane 2:
Human fetal heart lysate at 10 µg

Lane 3:
Human fetal kidney lysate at 10 µg

Secondary

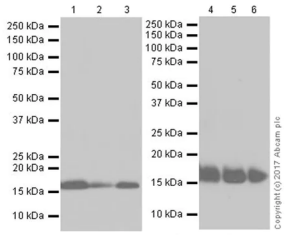
All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/4000 dilution

Developed using the ECL technique.

Predicted band size: 18 kDa, 30 kDa

Observed band size: 18 kDa

Exposure time: 5s



Western blot - Anti-Pin1 antibody [EPR18546-317] (ab192036)

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure times: Lanes 1-3: 5 seconds; Lanes 4-6: 15 seconds.

All lanes:
Western blot - Anti-Pin1 antibody [EPR18546-317] (ab192036) at 1/2000 dilution

Lane 1:
Mouse heart lysate at 10 µg

Lane 2:
Mouse kidney lysate at 10 µg

Lane 3:
Mouse spleen lysate at 10 µg

Lane 4:
Rat heart lysate at 10 µg

Lane 5:
Rat kidney lysate at 10 µg

Lane 6:
Rat spleen lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Developed using the ECL technique.

Predicted band size: 18 kDa

Observed band size: 18 kDa

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