abcam

ab92552

Anti-PCNA antibody [EPR3821]

Anti-PCNA antibody [EPR3821] (ab92552) is a rabbit monoclonal antibody detecting PCNA in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 420 publications
- Trusted since 2010

Chicken version of this clone also available as ab322083. Same clone, same staining pattern, different species antibody backbone.
Learn more about chimeric antibodies

Lab Essentials | Recombinant | RabMAb | 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	EPR3821
Purification technique	Affinity purification Protein A
Concentration	0.182 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/1000
Notes	The use of an HRP/AP polymerized antibody is recommended for a secondary antibody. Perform heat-mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/100 - 1/1000
Notes	The use of an HRP/AP polymerized antibody is recommended for a secondary antibody. Perform heat-mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.

Species	Human
Dilution info	1/100 - 1/1000
Notes	The use of an HRP/AP polymerized antibody is recommended for a secondary antibody. Perform heat-mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/20 - 1/50
Notes	-

Expected

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

WB

Tested

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

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	Use with methanol fixed samples.

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/40

Notes	For unpurified, use 1/1000. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information PCNA

Function	Confers DNA tethering and processivity to DNA polymerases and other proteins (PubMed:24695737, PubMed:24939902, PubMed:35585232). Auxiliary protein of DNA polymerase delta and epsilon, is involved in the control of DNA replication by increasing the polymerases' processivity during elongation of the leading strand (PubMed:35585232). Induces a robust stimulatory effect on the 3'-5' exonuclease and 3'-phosphodiesterase, but not apurinic-apyrimidinic (AP) endonuclease, APEX2 activities. Has to be loaded onto DNA in order to be able to stimulate APEX2. Plays a key role in DNA damage response (DDR) by being conveniently positioned at the replication fork to coordinate DNA replication with DNA repair and DNA damage tolerance pathways (PubMed:24939902). Acts as a loading platform to recruit DDR proteins that allow completion of DNA replication after DNA damage and promote postreplication repair: monoubiquitinated PCNA leads to recruitment of translesion (TLS) polymerases, while 'Lys-63'-linked polyubiquitination of PCNA is involved in error-free pathway and employs recombination mechanisms to synthesize across the lesion (PubMed:24695737).

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	Stable for 12 months at -20°C

Notes

What is this antibody validated in?
Anti-PCNA antibody [EPR3821] (ab92552) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of PCNA?
Anti-PCNA [EPR3821] (ab92552) specifically detects a band for PCNA (UniProt: P12004) at a molecular weight of 29kDa.

Trusted by the scientific community
Anti-PCNA [EPR3821] (ab92552) was first used in a scientific publication in 2010 and has been cited over 420 times in peer-reviewed journals.

Reviewed by scientists
Anti-PCNA [EPR3821] (ab92552) has over 10 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [EPR3821] also available for your convenience: ab92552, Alexa Fluor® 488 - ab193963, Alexa Fluor® 647 - ab193964, HRP - ab193965, Carrier free - ab218310, PE - ab314272, ab322083, Carrier free - ab322919

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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	PCNA or Proliferating Cell Nuclear Antigen functions as a sliding clamp for DNA polymerases during DNA replication. This important role enables it to coordinate the orderly duplication of the genome by increasing the processivity of DNA polymerase Δ. PCNA weighs approximately 29 kDa and forms a homotrimeric ring

	structure. It is expressed in the nucleus of cells often found abundantly in proliferating cells. Aside from its main name some people also refer to it as PC10.
Biological function summary	This protein serves a core function in cell cycle regulation and DNA repair. PCNA acts as a scaffold for the assembly of numerous proteins involved in DNA processing forming part of the replication fork complex. It interacts with cyclins and cyclin-dependent kinases (CDKs) linking DNA synthesis to cell cycle progression. Furthermore PCNA partners with proteins involved in DNA mismatch repair base excision repair and nucleotide excision repair.
Pathways	PCNA is integral in the DNA replication and repair pathways. It closely associates with the p21 protein which regulates the cell cycle by inhibiting cyclin-CDK complexes upon DNA damage. PCNA also plays a part in the ubiquitin-proteasome pathway where its modification by ubiquitin impacts how cells respond to DNA damage. This modification recruits specific proteins for DNA repair highlighting its central role in maintaining genomic stability.
Associated diseases and disorders	PCNA is linked to cancer and autoimmune diseases. Its overexpression is common in various cancers reflecting its role in cell proliferation and the cell cycle. PCNA antibodies are sometimes found in the serum of patients with systemic lupus erythematosus (SLE) a connection also related to alterations in the p21 protein pathway. The interaction between PCNA and disease-specific proteins emphasizes its importance in both cell proliferation and immune system disorders.

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

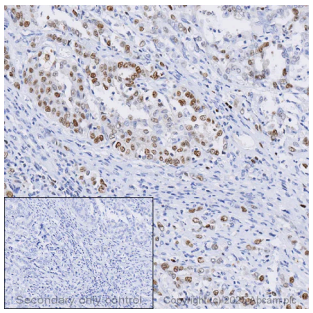
We do not recommend this combination. It is not covered by our product promise.

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.

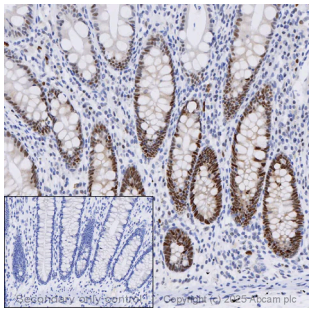
18 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

PCNA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human breast carcinoma using rabbit Anti-PCNA antibody

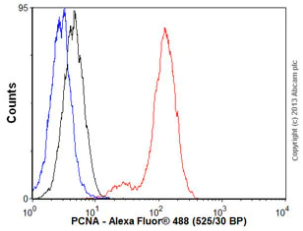
Immunohistochemical analysis of formalin fixed paraffin embedded human breast carcinoma labelling PCNA with ab92552 at a concentration of 0.01µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32 mins. ab92552 Anti-PCNA antibody [EPR3821] was incubated for 16 mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.
Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

PCNA Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human colon using rabbit Anti-PCNA antibody

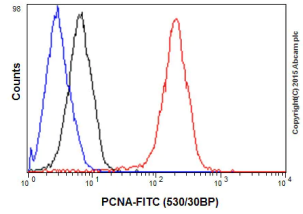
Immunohistochemical analysis of formalin fixed paraffin embedded human colon labelling PCNA with ab92552 at a concentration of 0.01µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32 mins .ab92552 Anti-PCNA antibody [EPR3821] was incubated for 16 mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.
Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).



Flow Cytometry (Intracellular) - Anti-PCNA antibody [EPR3821] (ab92552)

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

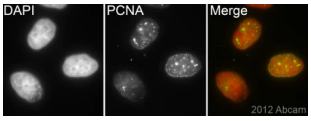
Overlay histogram showing HeLa cells stained with unpurified ab92552 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab92552, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluorr® 488 goat anti-rabbit IgG (H+L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Flow Cytometry (Intracellular) - Anti-PCNA antibody [EPR3821] (ab92552)

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

Overlay histogram showing HeLa cells fixed in 4% PFA and stained with purified ab92552 at a dilution of 1 in 40 (red line). The secondary antibody used was FITC goat anti-rabbit at a dilution of 1 in 500. Rabbit monoclonal IgG was used as an isotype control (black line) and cells incubated in the absence of both primary and secondary antibody were used as a negative control (blue line).

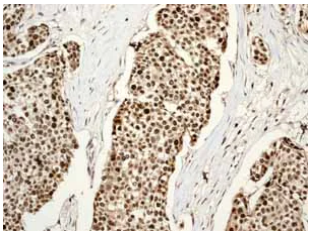


This image is courtesy of a customer review submitted by Kirk McManus.

Immunocytochemistry/ Immunofluorescence - Anti-PCNA antibody [EPR3821] (ab92552)

PCNA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PCNA antibody

Unpurified ab92552 (1/200) staining PCNA in Hela cells (green). Cells were fixed in methanol and counterstained with DAPI in order to highlight the nucleus (red). For further experimental details please refer to abreview.

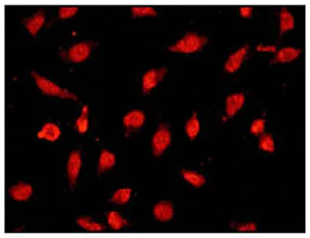


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

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

Unpurified ab92552 showing positive staining in human ovarian carcinoma tissue.

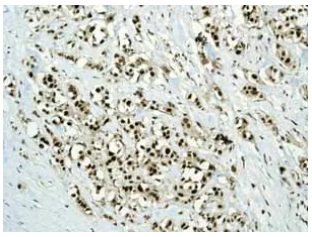
Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-PCNA antibody [EPR3821] (ab92552)

PCNA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PCNA antibody

Unpurified ab92552 at 1/100 dilution staining PCNA in HeLa cells by Immunofluorescence.

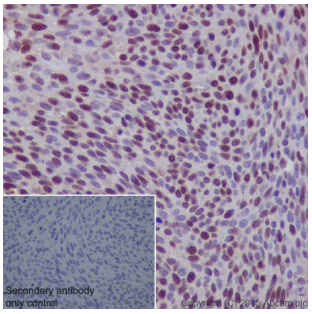


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

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

Unpurified ab92552 showing positive staining in human breast carcinoma tissue.

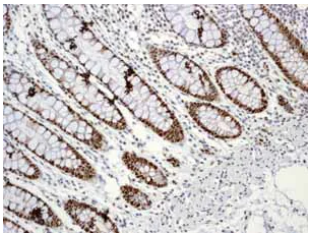
Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

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

Immunohistochemical staining of paraffin embedded human cervical carcinoma with purified ab92552 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.

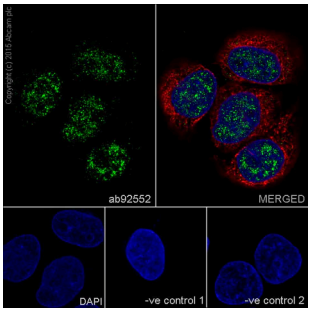


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

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

Unpurified ab92552 showing positive staining in human normal colon tissue.

Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.

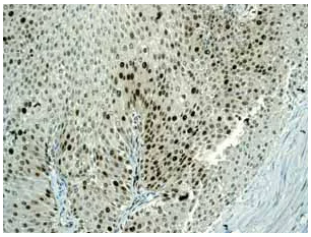


Immunocytochemistry/ Immunofluorescence - Anti-PCNA antibody [EPR3821] (ab92552)

PCNA Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PCNA antibody

Immunofluorescence staining of A431 cells with purified ab92552 at a working dilution of 1/100, counter-stained with DAPI. The secondary antibody was Alexa Fluor® 488 goat anti-rabbit (ab150077), used at a dilution of 1/1000. ab7291, a mouse anti-tubulin antibody (1/1000), was used to stain tubulin along with ab150120 (Alexa Fluor® 594 goat anti-mouse, 1/1000), shown in

the top right hand panel. The cells were fixed in 4% PFA and permeabilized using 0.1% Triton X 100. The negative controls are shown in bottom middle and right hand panels - for negative control 1, purified ab92552 was used at a dilution of 1/500 followed by an Alexa Fluor® 594 goat anti-mouse antibody (ab150120) at a dilution of 1/500. For negative control 2, ab7291 (mouse anti-tubulin) was used at a dilution of 1/500 followed by an Alexa Fluor® 488 goat anti-rabbit antibody (ab150077) at a dilution of 1/400.

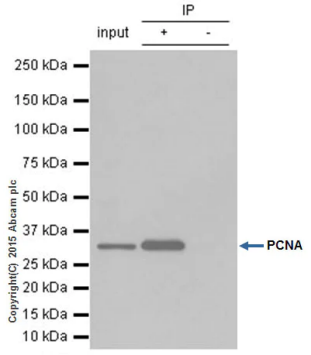


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

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

Unpurified ab92552 showing positive staining in human urinary bladder carcinoma tissue.

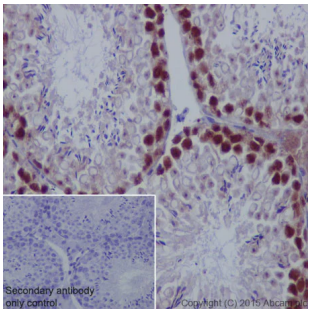
Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol.



Immunoprecipitation - Anti-PCNA antibody [EPR3821] (ab92552)

ab92552 (purified) at 1/20 immunoprecipitating PCNA in 10 µg HeLa (Lanes 1 and 2, observed at 29 kDa). Lane 3 - PBS. For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10,000 dilution. Blocking buffer and concentration: 5% NFDM/TBST
Dilution buffer and concentration: 5% NFDM/TBST
All lanes:
Immunoprecipitation - Anti-PCNA antibody [EPR3821] (ab92552)

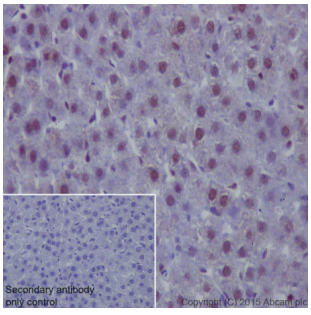
Predicted band size: 29 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

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

Immunohistochemical staining of paraffin embedded mouse testis with purified ab92552 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.

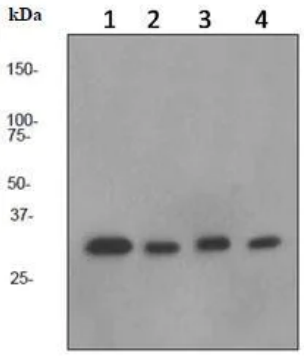


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PCNA antibody [EPR3821] (ab92552)

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

Immunohistochemical staining of paraffin embedded rat liver with purified ab92552 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA

buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



Western blot - Anti-PCNA antibody [EPR3821] (ab92552)

All lanes:
Western blot - Anti-PCNA antibody [EPR3821] (ab92552) at 1/50000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
HepG2 cell lysate at 10 µg

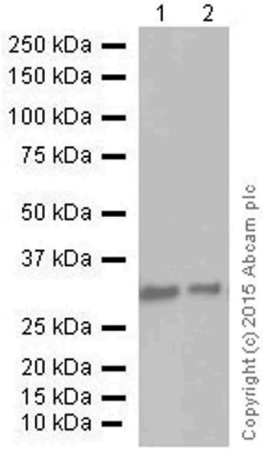
Lane 3:
HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) cell lysate at 10 µg

Lane 4:
A431 cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 29 kDa



Western blot - Anti-PCNA antibody [EPR3821] (ab92552)

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-PCNA antibody [EPR3821] (ab92552) at 1/5000 dilution

Lane 1:
HeLa (Human epithelial cell line from cervix adenocarcinoma) cell lysate at 10 µg

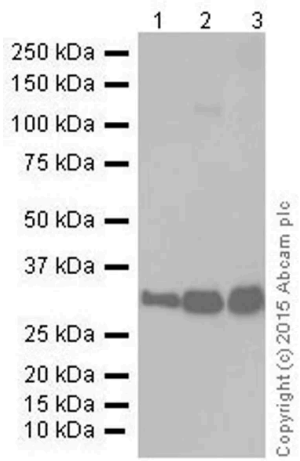
Lane 2:
HEK-293 (Human epithelial cell line from embryonic kidney) cell lysate at 10 µg

Secondary

All lanes:
HRP goat anti-rabbit IgG (H+L) at 1/20000 dilution

Predicted band size: 29 kDa

Observed band size: 29 kDa



Western blot - Anti-PCNA antibody [EPR3821] (ab92552)

PCNA Western blot staining using rabbit Anti-PCNA antibody

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-PCNA antibody [EPR3821] (ab92552) at 1/1000 dilution

Lane 1:
Mouse spleen lysate at 10 µg

Lane 2:
NIH/3T3 (Mouse embryo fibroblast cell line) lysate at 10 µg

Lane 3:
PC-12 (Rat adrenal gland pheochromocytoma cell line) lysate at 10 µg

Secondary

All lanes:
HRP goat anti-rabbit IgG (H+L) at 1/20000 dilution

Predicted band size: 29 kDa

Observed band size: 29 kDa

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