abcam

ab221923

Anti-PARP1 antibody [E102] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	E102
Purification technique	Affinity purification Protein A
Specificity	This antibody recognises both pro-form and p25 cleaved form of PARP1.
Concentration	1.025 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	Existing as a 113 kDa nuclear protein, PARP1 is cleaved between amino acids Asp214 and Gly215 to yield two fragments of 29 kDa (C-terminal catalytic domain) and 85 kDa (N-terminal DNA-binding domain)

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376- Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information PARP1

Function

Poly-ADP-ribosyltransferase that mediates poly-ADP-ribosylation of proteins and plays a key role in DNA repair (PubMed:17177976, PubMed:18055453, PubMed:18172500, PubMed:19344625, PubMed:19661379, PubMed:20388712, PubMed:21680843, PubMed:22582261, PubMed:23230272, PubMed:25043379, PubMed:26344098, PubMed:26626479, PubMed:26626480, PubMed:30104678, PubMed:31796734, PubMed:32028527, PubMed:32241924, PubMed:32358582, PubMed:33186521, PubMed:34465625, PubMed:34737271). Mediates glutamate, aspartate, serine, histidine or tyrosine ADP-ribosylation of proteins: the ADP-D-ribosyl group of NAD(+) is transferred to the acceptor carboxyl group of target residues and further ADP-ribosyl groups are transferred to the 2'-position of the terminal adenosine moiety, building up a polymer with an average chain length of 20-30 units (PubMed:19764761, PubMed:25043379, PubMed:28190768, PubMed:29954836, PubMed:35393539, PubMed:7852410, PubMed:9315851). Serine ADP-ribosylation of proteins constitutes the primary form of ADP-ribosylation of proteins in response to DNA damage (PubMed:33186521, PubMed:34874266). Specificity for the different amino acids is conferred by interacting factors, such as HPF1 and NMNAT1 (PubMed:28190768, PubMed:29954836, PubMed:32028527, PubMed:33186521, PubMed:33589610, PubMed:34625544, PubMed:34874266). Following interaction with HPF1, catalyzes serine ADP-ribosylation of target proteins; HPF1 confers serine specificity by completing the PARP1 active site (PubMed:28190768, PubMed:29954836, PubMed:32028527, PubMed:33186521, PubMed:33589610, PubMed:34625544, PubMed:34874266). Also catalyzes tyrosine ADP-ribosylation of target proteins following interaction with HPF1 (PubMed:29954836, PubMed:30257210). Following interaction with NMNAT1, catalyzes glutamate and aspartate ADP-ribosylation of target proteins; NMNAT1 confers glutamate and aspartate specificity (By similarity). PARP1 initiates the repair of DNA breaks: recognizes and binds DNA breaks within chromatin and recruits HPF1, licensing serine ADP-ribosylation of target proteins, such as histones (H2BS6ADPr and H3S10ADPr), thereby promoting decompaction of chromatin and the recruitment of repair factors leading to the reparation of DNA strand breaks (PubMed:17177976, PubMed:18172500, PubMed:19344625, PubMed:19661379, PubMed:23230272, PubMed:27067600, PubMed:34465625, PubMed:34874266). HPF1 initiates serine ADP-ribosylation but restricts the polymerase activity of PARP1 in order to limit the length of poly-ADP-ribose chains (PubMed:33683197, PubMed:34732825, PubMed:34795260). In addition to base excision repair (BER) pathway, also involved in double-strand breaks (DSBs) repair: together with TIMELESS, accumulates at DNA damage sites and promotes homologous recombination repair by mediating poly-ADP-ribosylation (PubMed:26344098, PubMed:30356214). Mediates the poly-ADP-ribosylation of a number of proteins, including itself, APLF, CHFR, RPA1 and NFAT5 (PubMed:17396150, PubMed:19764761, PubMed:24906880, PubMed:34049076). In addition to proteins, also able to ADP-ribosylate DNA: catalyzes ADP-ribosylation of DNA strand break termini containing terminal phosphates and a 2'-OH group in single- and double-stranded DNA, respectively (PubMed:27471034). Required for PARP9 and DTX3L recruitment to DNA damage sites (PubMed:23230272). PARP1-dependent PARP9-DTX3L-mediated ubiquitination promotes the rapid and specific recruitment of 53BP1/TP53BP1, UIMC1/RAP80, and BRCA1 to DNA damage sites (PubMed:23230272). PARP1-mediated DNA repair in neurons plays a role in sleep: senses DNA damage in neurons and promotes sleep, facilitating efficient DNA repair (By similarity). In addition to DNA repair, also involved in other processes, such as transcription regulation, programmed cell death, membrane repair, adipogenesis and innate immunity (PubMed:15607977, PubMed:17177976,

PubMed:19344625, PubMed:27256882, PubMed:32315358, PubMed:32844745, PubMed:35124853, PubMed:35393539, PubMed:35460603). Acts as a repressor of transcription: binds to nucleosomes and modulates chromatin structure in a manner similar to histone H1, thereby altering RNA polymerase II (PubMed:15607977, PubMed:22464733). Acts both as a positive and negative regulator of transcription elongation, depending on the context (PubMed:27256882, PubMed:35393539). Acts as a positive regulator of transcription elongation by mediating poly-ADP-ribosylation of NELFE, preventing RNA-binding activity of NELFE and relieving transcription pausing (PubMed:27256882). Acts as a negative regulator of transcription elongation in response to DNA damage by catalyzing poly-ADP-ribosylation of CCNT1, disrupting the phase separation activity of CCNT1 and subsequent activation of CDK9 (PubMed:35393539). Involved in replication fork progression following interaction with CARM1: mediates poly-ADP-ribosylation at replication forks, slowing fork progression (PubMed:33412112). Poly-ADP-ribose chains generated by PARP1 also play a role in poly-ADP-ribose-dependent cell death, a process named parthanatos (By similarity). Also acts as a negative regulator of the cGAS-STING pathway (PubMed:32315358, PubMed:32844745, PubMed:35460603). Acts by mediating poly-ADP-ribosylation of CGAS: PARP1 translocates into the cytosol following phosphorylation by PRKDC and catalyzes poly-ADP-ribosylation and inactivation of CGAS (PubMed:35460603). Acts as a negative regulator of adipogenesis: catalyzes poly-ADP-ribosylation of histone H2B on 'Glu-35' (H2BE35ADPr) following interaction with NMNAT1, inhibiting phosphorylation of H2B at 'Ser-36' (H2BS36ph), thereby blocking expression of pro-adipogenetic genes (By similarity). Involved in the synthesis of ATP in the nucleus, together with NMNAT1, PARG and NUDT5 (PubMed:27257257). Nuclear ATP generation is required for extensive chromatin remodeling events that are energy-consuming (PubMed:27257257). Poly [ADP-ribose] polymerase 1, processed C-terminus. Promotes AIFM1-mediated apoptosis (PubMed:33168626). This form, which translocates into the cytoplasm following cleavage by caspase-3 (CASP3) and caspase-7 (CASP7) in response to apoptosis, is auto-poly-ADP-ribosylated and serves as a poly-ADP-ribose carrier to induce AIFM1-mediated apoptosis (PubMed:33168626). Poly [ADP-ribose] polymerase 1, processed N-terminus. This cleavage form irreversibly binds to DNA breaks and interferes with DNA repair, promoting DNA damage-induced apoptosis.

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

ab221923 is the carrier-free version of ab32138..

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	PARP1 also known as poly(ADP-ribose) polymerase 1 is an enzyme that plays an important role in DNA repair processes. It detects DNA single-strand breaks and uses NAD+ as a substrate to add ADP-ribose polymers to itself and other proteins. This post-translational modification signals DNA repair machinery to the site of damage. PARP1 has a molecular weight of approximately 116 kDa. It is widely expressed in the nucleus of eukaryotic cells. PARP1 is often studied by western blotting techniques to analyze its expression and activation levels.
Biological function summary	Poly(ADP-ribose) polymerase 1 functions to maintain genomic stability by acting within the base excision repair complex. This complex is important for the detection and repair of DNA damage preventing the accumulation of mutations. By acting at sites of DNA stress PARP1 facilitates the binding of DNA repair proteins stabilizing the DNA structure during the repair process. This role is significant for cells that undergo frequent DNA replication or are exposed to high levels of genotoxic stress.
Pathways	The PARP1 protein is integral to the DNA damage response and repair pathway. It interacts with other proteins such as XRCC1 to coordinate repair activities at

	damaged DNA sites. Another important pathway involving PARP1 is the apoptosis pathway where excessive activation of PARP1 can lead to cell death due to depletion of cellular NAD+ and ATP. This indicates its dual role in both promoting cell survival through DNA repair and contributing to cell death when damage is irreparable.
Associated diseases and disorders	Poly(ADP-ribose) polymerase 1 is strongly linked to cancer and neurodegenerative diseases. Its activity is heightened in many cancer types where cancer cells exploit PARP1 for survival by repairing DNA damage that would otherwise be lethal. Inhibitors of PARP1 are being developed as cancer therapies to target these survival mechanisms. Moreover overactivation of PARP1 in neurodegenerative disorders like Alzheimer's disease can lead to excessive energy consumption promoting neuronal cell damage. In these contexts PARP1 connects with proteins like BRCA1 in cancer or AIF in neurodegeneration illustrating its role in disease mechanisms.

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

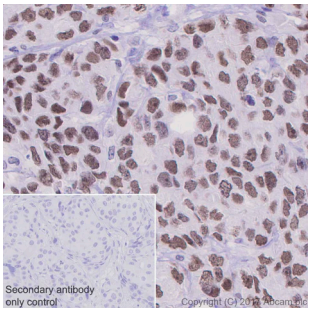
We do not recommend this combination. It is not covered by our product promise.

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

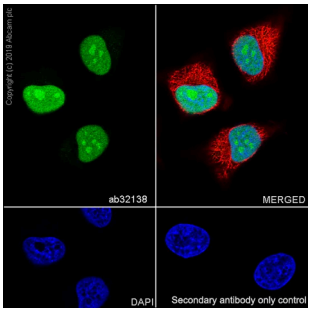


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PARP1 antibody

This data was developed using ab32138, the same antibody clone in a different buffer formulation.

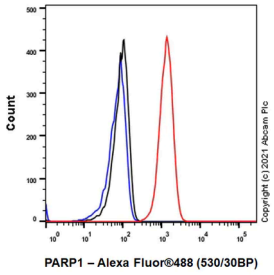
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue sections labeling PARP1 with purified ab32138 at 1/200 dilution (0.51 µg/mL). Heat mediated antigen retrieval was performed using Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used at 1/0 dilution. PBS instead of the primary antibody was used as the negative control.



Immunocytochemistry/ Immunofluorescence - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PARP1 antibody

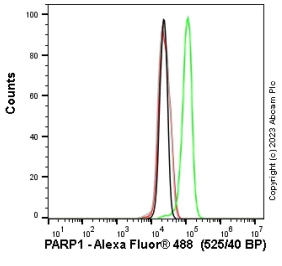
This data was developed using ab32138, the same antibody clone in a different buffer formulation. Immunocytochemistry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling PARP1 with purified ab32138 at 1/100 dilution (1.0 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized 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 (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Flow Cytometry (Intracellular) staining using rabbit Anti-PARP1 antibody

This data was developed using ab32138, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labelling PARP1 with purified ab32138 at 1/20 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Flow Cytometry (Intracellular) - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Flow Cytometry (Intracellular) staining using rabbit Anti-PARP1 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32138).

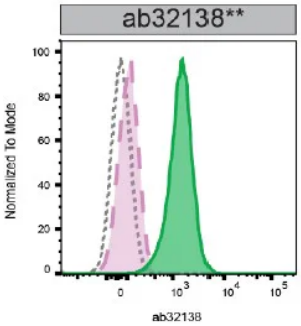
Flow cytometry overlay histogram showing wild-type Hap1 (green line) and PARP1 knockout Hap1 stained with ab32138 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS

containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab32138) (1x 106 in 100µl at 0.04 µg/ml (1/55750)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Isotype control antibody Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control was used at the same concentration and conditions as the primary antibody (wild-type Hap1 - black line, PARP1 knockout Hap1 - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.



Flow Cytometry (Intracellular) - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

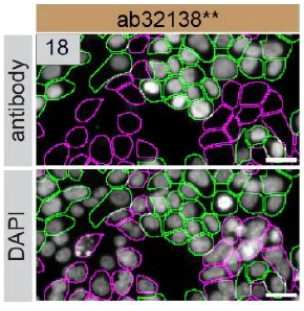
PARP1 Flow Cytometry (Intracellular) staining using rabbit Anti-PARP1 antibody

This data was developed using ab32138, the same antibody clone in a different buffer formulation. HEK293T wild-type and PARP1 knockout cells (ab266598) were labelled with a green or violet, fluorescent dye, respectively. Wild-type and knockout cells were mixed in a 1:1 ratio, fixed in 4% PFA and permeabilized in 0.1% Triton X-100.

Antibody staining was quantified using the Attune NxT Flow Cytometer with representative images showing the staining intensity in the knockout population (pink histogram, dashed line) compared to the wild-type cells (green histogram, solid line). Histograms with dotted lines represent secondary antibody-only controls in both wild-type and knockout cells.

Antibody dilution: 0.1 µg/µL.

This data was provided by YCharOS Inc., an open science company with the mission of characterizing commercially available antibody reagents for all human proteins. Abcam and YCharOS are working together to help address the reproducibility crisis by enabling the life science community to better evaluate commercially available antibodies.

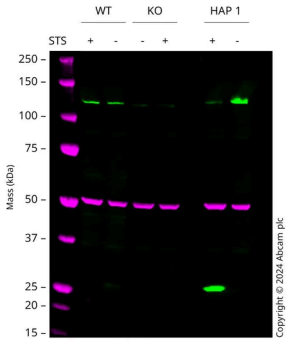


Immunocytochemistry/ Immunofluorescence - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PARP1 antibody

This data was developed using ab32138, the same antibody clone in a different buffer formulation. ab32138 was shown to react with PARP1 in wild-type HEK293T cells in immunocytochemistry with loss of signal observed in PARP1 knockout cell line ab266598. Wild-type and knockout cells were mixed and pelleted at a 1:1 ratio on coverslips. The cells were fixed with 4% paraformaldehyde (15 min) then permeabilized with 0.1% Triton X-100 (10min) and then blocked with 1x PBS, 0.01% Triton X-100, 5% BSA, 5% NGS. The cells were then incubated with ab32138 at 1/50 dilution overnight at 4°C followed by a further incubation at room temperature for 1h with a goat anti-rabbit secondary antibody to (Alexa Fluor® 555) at 0.5 µg/ml. Acquisition of the green (wild-type), red (antibody staining) and far-red (knockout) channels was performed. Representative grayscale images of the red channel are shown. Wild-type and knockout cells are outlined with yellow and magenta dashed line, respectively. Schematic representation of the mosaic strategy used is shown on the bottom-right panel. Image was acquired with a Zeiss (LSM-880).

This data was provided by YCharOS Inc., an open science company with the mission of characterizing commercially available antibody reagents for all human proteins. Abcam and YCharOS are working together to help address the reproducibility crisis by enabling the life science community to better evaluate commercially available antibodies.



Western blot - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Western blot staining using rabbit Anti-PARP1 antibody

Western blot: Anti-PARP1 antibody [E102] (ab32138) staining at 1/1000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in magenta. In Western blot, ab32138 was shown to bind specifically to PARP1. A band was observed at 125 kDa in wild-type A549 cell lysates with no signal observed at this size in PARP1 knockout cell line ab276094 (knockout cell lysate Abcam Pools). To generate this image, wild-type and PARP1 knockout A549 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.
All lanes:
Western blot - Anti-PARP1 antibody [E102] (ab32138) at 1/1000 dilution

Lane 1:
Wild-type A549 control staurosporine (0 uM, 72 h) cell lysate at 20 µg

Lane 2:
Wild-type A549 treated staurosporine (3 uM, 24 h) cell lysate at 20 µg

Lane 3:
PARP1 knockout A549 control staurosporine (0 uM, 72 h) cell lysate at 20 µg

Lane 4:
PARP1 knockout A549 treated staurosporine (3 uM, 24 h) cell lysate at 20 µg

Lane 5:
Empty cell lysate at 20 µg

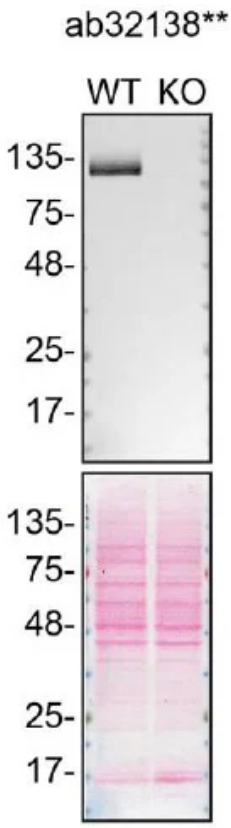
Lane 6:
HAP1 Treated Staurosporine (2uM, 4h) cell lysate at 20 µg

Lane 7:
HAP1 Vehicle Control Staurosporine (0uM, 4h) cell lysate at 10 µg

Secondary

All lanes:
Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution

Performed under reducing conditions.



Western blot - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Western blot staining using rabbit Anti-PARP1 antibody

This data was developed using ab32138, the same antibody clone in a different buffer formulation. ab32138 was shown to react with PARP1 in wild-type HEK293T cells in Western blot with loss of signal observed in PARP1 knockout cell line ab266598. Wild-type HEK293T and PARP1 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 5% milk in TBST for 1 hr before incubation with ab32138 overnight at 4 °C at a 1/5000 dilution. Blots were incubated with secondary antibodies at 0.2 µg/mL before imaging.

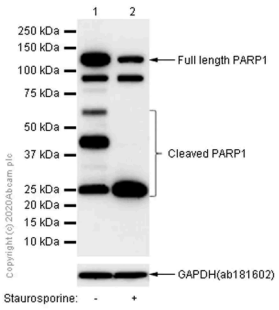
This data was provided by YCharOS Inc., an open science company with the mission of characterizing commercially available antibody reagents for all human proteins. Abcam and YCharOS are working together to help address the reproducibility crisis by enabling the life science community to better evaluate commercially available antibodies.
All lanes:
Western blot - Anti-PARP1 antibody [E102] (ab32138) at 1/5000 dilution

Lane 1:
Wild-type HEK293T lysate at 30 µg

Lane 2:
PARP1 knock-out HEK293T lysate at 30 µg

Lane 2:
Western blot - Human PARP1 knockout HEK-293T cell line (ab266598)

Predicted band size: 113 kDa



Western blot - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Western blot staining using rabbit Anti-PARP1 antibody

pro-form: 116kDa; p25 caspases cleaved form: 25kDa; proteolysis cleaved fragments: 58kDa and 42kDa
All lanes:
Western blot - Anti-PARP1 antibody [E102] (ab32138) at 1/1000 dilution

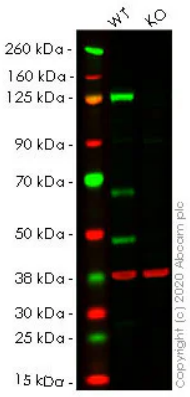
Lane 1:
Untreated Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

Lane 2:
Jurkat (Human T cell leukemia T lymphocyte) treated with 1µM staurosporine for 4 hours whole cell lysate at 20 µg

Secondary

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

Predicted band size: 113 kDa



Western blot - Anti-PARP1 antibody [E102] - BSA and Azide free (ab221923)

PARP1 Western blot staining using rabbit Anti-PARP1 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32138).
Lanes 1- 2: Merged signal (red and green). Green - ab32138 observed at 113 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.

ab32138 was shown to react with PARP1 in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line ab266598 (knockout cell lysate ab257017). Wild-type HEK-293T and PARP1 knockout HEK-293T cell lysates were subjected to SDS-PAGE. ab32138 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-PARP1 antibody [E102] (ab32138) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human PARP1 knockout HEK-293T cell lysate (ab257017) at 20 µg

Performed under reducing conditions.

Predicted band size: 113 kDa

Observed band size: 113 kDa

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