abcam

Product datasheet

Anti-PARP1 antibody [E102] - BSA and Azide free ab221923

KO VALIDATED Recombinant RabMAb

7 Images

Overview

Product name	Anti-PARP1 antibody [E102] - BSA and Azide free
Description	Rabbit monoclonal [E102] to PARP1 - BSA and Azide free
Host species	Rabbit
Specificity	This antibody recognises both pro-form and p25 cleaved form of PARP1.
Tested applications	**Suitable for:** IHC-P, WB, ICC/IF, Flow Cyt (Intra) **Unsuitable for:** IP
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Wild type HAP1 whole cell lysate; HeLa whole cell lysate (**ab150035**); HEK-293T cell lysate; ICC/IF: HeLa cells; IHC-P: Human breast carcinoma tissue; Flow Cyt (intra): HeLa cells, HAP1 cells. WB: Jurkat whole cell lysate.
General notes	Ab221923 is the carrier-free version of **ab32138**.. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. 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. 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. 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 production

For more information **see here**.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

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

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.20 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	E102
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab221923 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

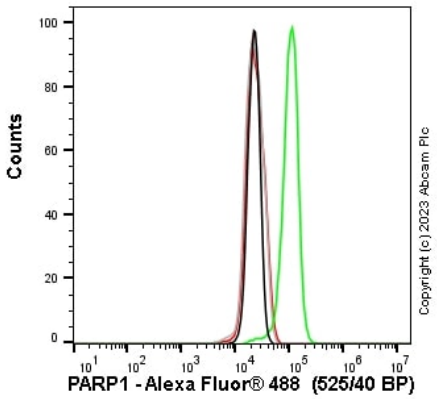
Application	Abreviews	Notes
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**.
WB		Use at an assay dependent concentration. Predicted molecular weight: 113 kDa. 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)
ICC/IF		Use at an assay dependent concentration.
Flow Cyt (Intra)		Use at an assay dependent concentration. **ab199376**- Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Application notes Is unsuitable for IP.

Target

Function	Involved in the base excision repair (BER) pathway, by catalyzing the poly(ADP-ribosyl)ation of a limited number of acceptor proteins involved in chromatin architecture and in DNA metabolism. This modification follows DNA damages and appears as an obligatory step in a detection/signaling pathway leading to the reparation of DNA strand breaks. Mediates the poly(ADP-ribosyl)ation of APLF and CHFR. Positively regulates the transcription of MTUS1 and negatively regulates the transcription of MTUS2/TIP150.
Sequence similarities	Contains 1 BRCT domain. Contains 1 PARP alpha-helical domain. Contains 1 PARP catalytic domain. Contains 2 PARP-type zinc fingers.
Post-translational modifications	Phosphorylated by PRKDC. Phosphorylated upon DNA damage, probably by ATM or ATR. Poly-ADP-ribosylated by PARP2. Poly-ADP-ribosylation mediates the recruitment of CHD1L to DNA damage sites. S-nitrosylated, leading to inhibit transcription regulation activity.
Cellular localization	Nucleus.

Images



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

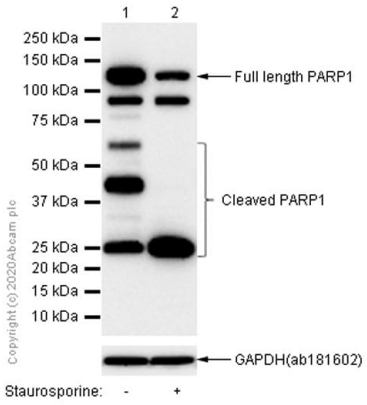
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab32138**).

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 10^6 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.



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

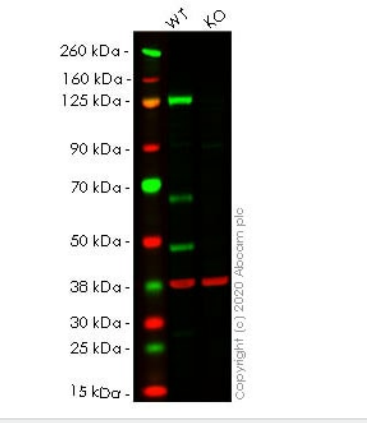
All lanes : Anti-PARP1 antibody [E102] (**ab32138**) at 1/1000 dilution (Purified)

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

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

Predicted band size: 113 kDa

pro-form: 116kDa; p25 caspases cleaved form: 25kDa; proteolysis cleaved fragments: 58kDa and 42kDa



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

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

Lane 1 : Wild-type HEK-293T cell lysate
Lane 2 : PARP1 knockout HEK-293T cell lysate

Lysates/proteins at 20 µg per lane.

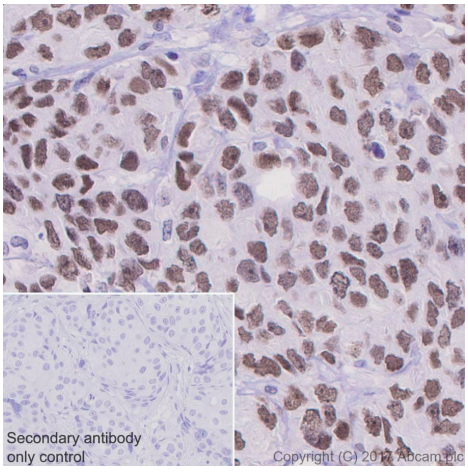
Performed under reducing conditions.

Predicted band size: 113 kDa
Observed band size: 113 kDa

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.

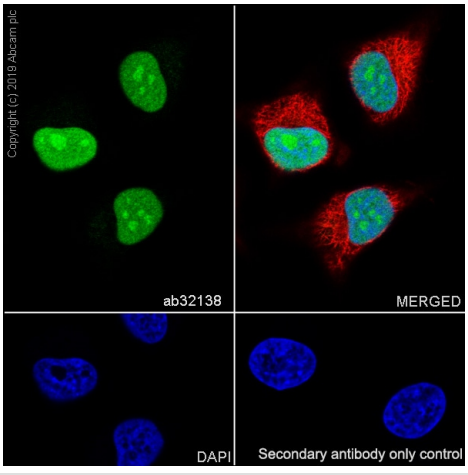
ab32138 was shown to react with PARP1 in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line **ab266598** (knockout cell lysate **ab257017**). Wild-type HEK-293T and PARP1 knockout HEK-293T cell lysates were subjected to SDS-PAGE. **ab32138** and Anti-GAPDH antibody [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.



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

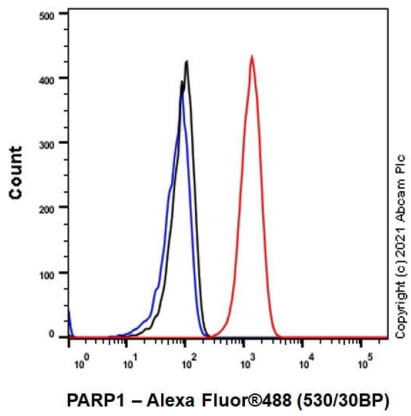
This data was developed using **ab32138**, the same antibody clone in a different buffer formulation.

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)

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)

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).

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

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