

## Product datasheet

### Anti-PARP1 antibody [E102] ab32138

KO VALIDATED Recombinant RabMAb

★★★★☆ 6 Abreviews 116 References 8 Images

#### Overview

Product name	Anti-PARP1 antibody [E102]
Description	Rabbit monoclonal [E102] to PARP1
Host species	Rabbit
Specificity	This antibody recognises both pro-form and p25 cleaved form of PARP1.
Tested applications	<b>Suitable for:</b> WB, IHC-P, Flow Cyt (Intra), ICC/IF <b>Unsuitable for:</b> IP
Species reactivity	<b>Reacts with:</b> 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 ( <a href="#">ab150035</a> ); HEK-293T cell lysate; IHC-P: Human breast carcinoma tissue; ICC/IF: HeLa cells; Flow Cyt (intra): HeLa cells, HAP1 cells. WB: Jurkat whole cell lysate.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p> <p>Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.</p>

#### Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide

	Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	E102
<b>Isotype</b>	IgG

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab32138 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
<b>WB</b>	★★★★★ (4)	1/1000 - 1/10000. 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 (N-terminal catalytic domain) and 85 kDa (C-terminal DNA-binding domain)
<b>IHC-P</b>	★★★★★ (1)	1/200. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. See <b>IHC antigen retrieval protocols</b> . <b>For unpurified use at 1/25.</b>
<b>Flow Cyt (Intra)</b>		1/20 - 1/50. <b>ab172730</b> - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
<b>ICC/IF</b>	★★★★★ (1)	1/100.

**Application notes** Is unsuitable for IP.

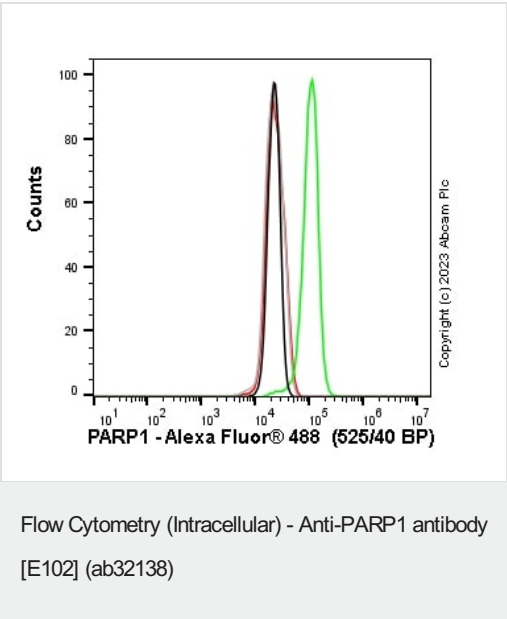
## Target

**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.

Images

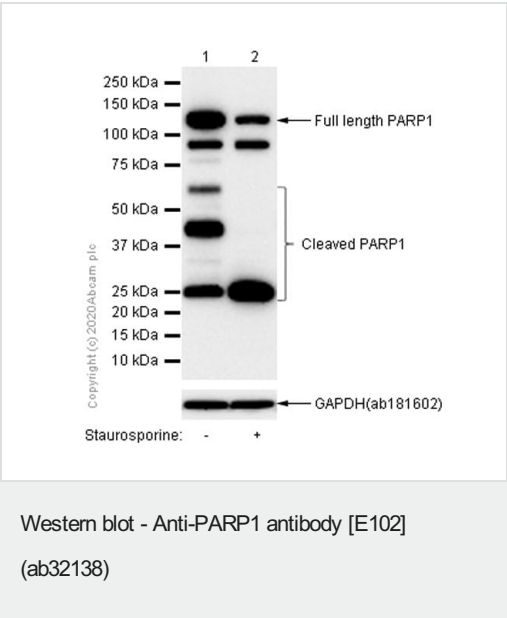


Flow cytometry overlay histogram showing wild-type Hap1 (green line) and PARP1 knockout Hap1 stained with ab32138 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab32138) (1x 10<sup>6</sup> 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.



**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

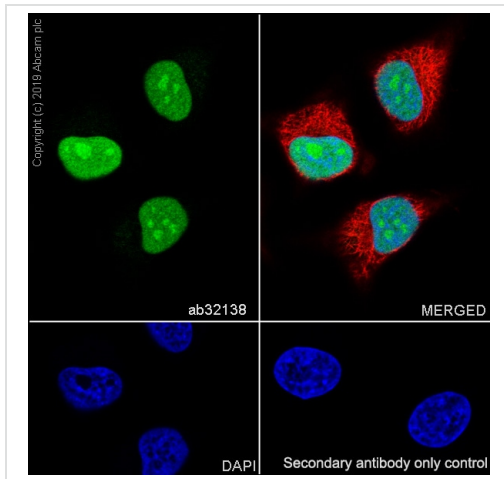
**Lane 2 :** Jurkat (Human T cell leukemia T lymphocyte) treated with 1µM staurosporine for 4 hours whole cell lysate

**Secondary**

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

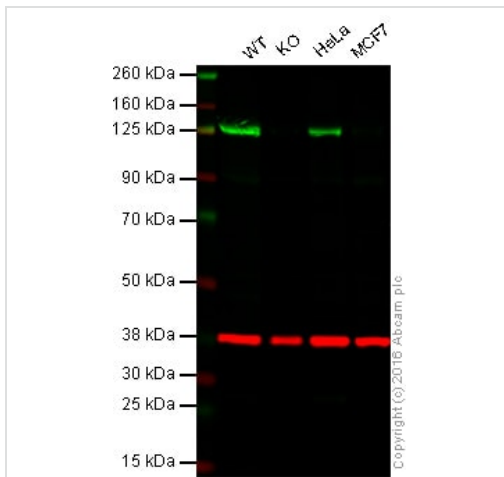
**Predicted band size:** 113 kDa

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



Immunocytochemistry/ Immunofluorescence - Anti-PARP1 antibody [E102] (ab32138)

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.



Western blot - Anti-PARP1 antibody [E102] (ab32138)

**Lane 1:** Wild type HAP1 whole cell lysate (20 µg)

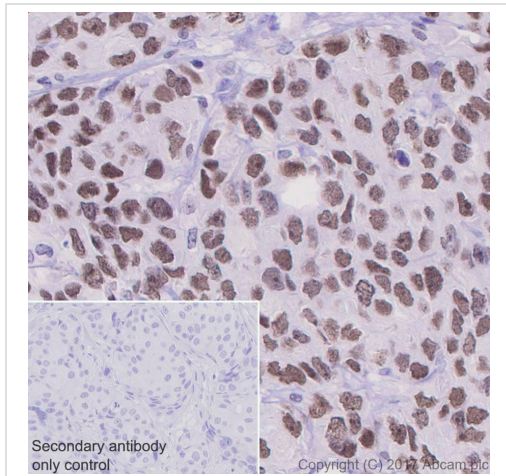
**Lane 2:** PARP1 knockout HAP1 whole cell lysate (20 µg)

**Lane 3:** HeLa whole cell lysate (20 µg)

**Lane 4:** MCF7 whole cell lysate (20 µg)

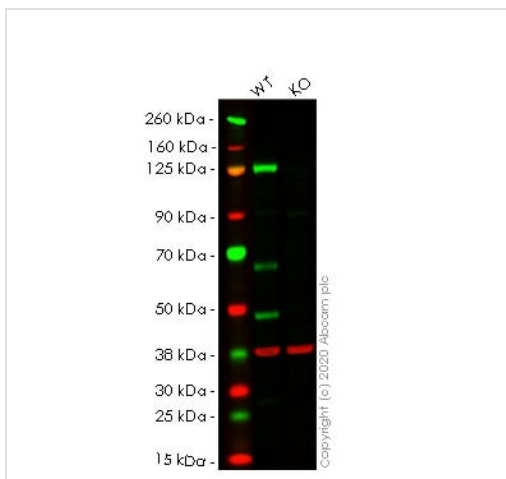
**Lanes 1 - 4:** Merged signal (red and green). Green - ab32138 observed at 125 kDa. Red - loading control, [ab8245](#), observed at 37 kDa.

ab32138 was shown to specifically react with PARP1 when PARP1 knockout samples were used. Wild-type and PARP1 knockout samples were subjected to SDS-PAGE. ab32138 and [ab8245](#) (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/10 000 dilution respectively. Blots were developed with 800CW Goat anti Rabbit and 680CW Goat anti Mouse secondary antibodies at 1/10 000 dilution for 1 hour at room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PARP1 antibody [E102] (ab32138)

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.



Western blot - Anti-PARP1 antibody [E102] (ab32138)

**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.

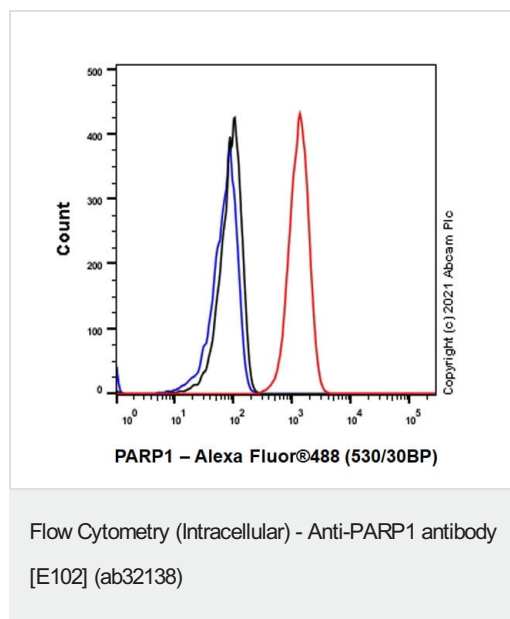
**Predicted band size:** 113 kDa

**Observed band size:** 113 kDa

**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**) was used. 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.



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).

Why choose a recombinant antibody?

 <p><b>Research with confidence</b> Consistent and reproducible results</p>	 <p><b>Long-term and scalable supply</b> Recombinant technology</p>
 <p><b>Success from the first experiment</b> Confirmed specificity</p>	 <p><b>Ethical standards compliant</b> Animal-free production</p>

Anti-PARP1 antibody [E102] (ab32138)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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