abcam

Product datasheet

# Anti-PUMA antibody ab9643

12 Abreviews 121 References 6 Images

## Overview

| | |
|---|---|
| **Product name** | Anti-PUMA antibody |
| **Description** | Rabbit polyclonal to PUMA |
| **Host species** | Rabbit |
| **Specificity** | At least 2 isoforms are known to exist; this antibody will detect both isoforms. |
| **Tested applications** | **Suitable for:** WB, ICC/IF |
| **Species reactivity** | **Reacts with:** Mouse, Human |
| **Immunogen** | Synthetic peptide corresponding to Human PUMA aa 150-250 (C terminal).<br>Run BLAST with ExPASy Run BLAST with NCBI |

**General notes**

Apoptosis is related to many diseases and development. The p53 tumor-suppressor protein induces apoptosis through transcriptional activation of several genes. A novel p53 inducible pro-apoptotic gene was identified recently and designated PUMA (for p53 upregulated modulator of apoptosis) and bbc3 (for Bcl-2 binding component 3) in human and mouse (1-3). PUMA/bbc3 is one of the pro-apoptotic Bcl-2 family members including Bax and Noxa, which are also transcriptional targets of p53. The PUMA gene encodes two BH3 domain-containing proteins termed PUMA-a and PUMA-b (1). PUMA proteins bind Bcl-2, localize to the mitochondria, and induce cytochrome c release and apoptosis in response to p53. PUMA may be a direct mediator of p53-induced apoptosis.

The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

## Properties

| | |
|---|---|
| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Store at +4°C. |
| **Storage buffer** | pH: 7.2 |

| | |
|---|---|
| | Preservative: 0.02% Sodium azide<br>Constituent: PBS |
| **Purity** | Immunogen affinity purified |
| **Primary antibody notes** | Apoptosis is related to many diseases and development. The p53 tumor-suppressor protein induces apoptosis through transcriptional activation of several genes. A novel p53 inducible pro-apoptotic gene was identified recently and designated PUMA (for p53 upregulated modulator of apoptosis) and bbc3 (for Bcl-2 binding component 3) in human and mouse (1-3). PUMA/bbc3 is one of the pro-apoptotic Bcl-2 family members including Bax and Noxa, which are also transcriptional targets of p53. The PUMA gene encodes two BH3 domain-containing proteins termed PUMA-a and PUMA-b (1). PUMA proteins bind Bcl-2, localize to the mitochondria, and induce cytochrome c release and apoptosis in response to p53. PUMA may be a direct mediator of p53-induced apoptosis. |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab9643 in the following tested applications.

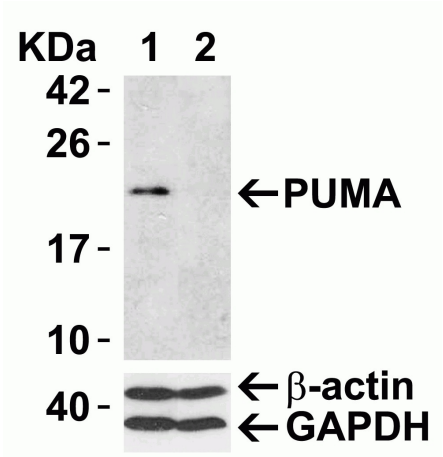
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes |
|---|---|---|
| **WB** | ★★★★☆ **(9)** | Use a concentration of 1 - 2 µg/ml. Detects a band of approximately 23 kDa. Use at a concentration of 1 - 2 µg/ml. Detects a band of approximately 23 kDa. Can be blocked with **PUMA peptide (180/193) (ab9644)**. A lower band at approximately 16 kDa was detected in MOLT4 and U937 cells, which may represent the PUMA-beta form. |
| **ICC/IF** | | Use a concentration of 1 µg/ml. |

## Target

| | |
|---|---|
| **Function** | Essential mediator of p53-dependent and p53-independent apoptosis. |
| **Tissue specificity** | Ubiquitously expressed. |
| **Sequence similarities** | Belongs to the Bcl-2 family. |
| **Cellular localization** | Mitochondrion. Localized to the mitochondria in order to induce cytochrome c release. |

## Images




Western blot - Anti-PUMA antibody (ab9643)

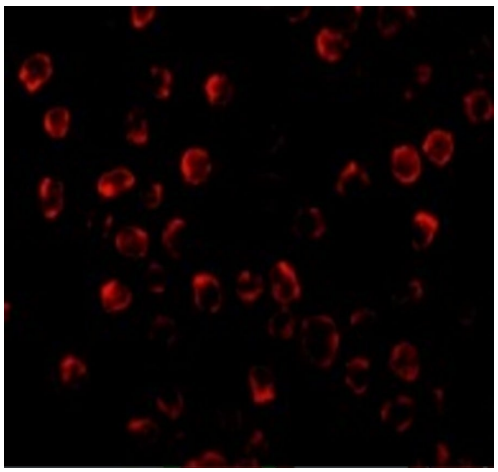
**All lanes :** Anti-PUMA antibody (ab9643) at 2 µg/ml

**Lane 1 :** HEK293 cells were transfected with control siRNAs with control siRNAs
**Lane 2 :** HEK293 cells were transfected with PUMA siRNAs with PUMA siRNA

Lysates/proteins at 15 µg per lane.

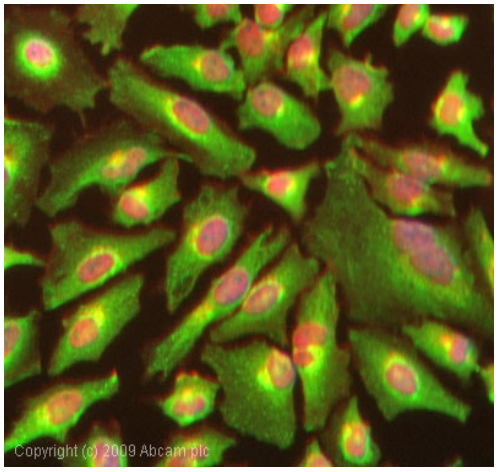
**Secondary**
**All lanes :** Goat anti-rabbit IgG HRP conjugate at 1/10000 dilution

Beta-actin (1 µg/mL) and GAPDH (0.02 µg/mL). Incubation time: 1 hour at Room Temperature in 5% NFDM/TBST.



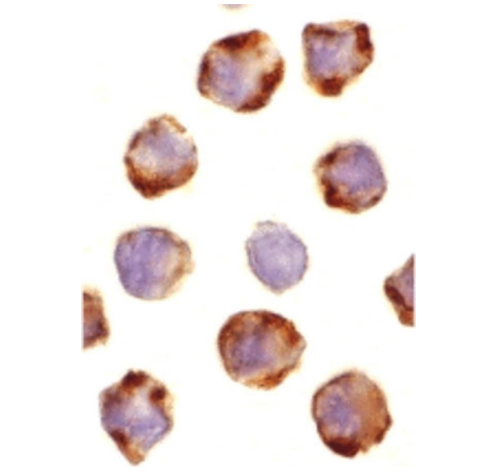
Immunocytochemistry/ Immunofluorescence - Anti-PUMA antibody (ab9643)

Immunofluorescent analysis of 4% paraformaldehydefixed K562 cells labeling PUMA with ab9643 at 2 µg/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (red). Image showing cytosol staining on K562 cells.



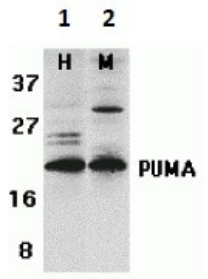

Immunocytochemistry/ Immunofluorescence - Anti-PUMA antibody (ab9643)

ICC/IF image of ab9643 stained HeLa cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab9643, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Immunocytochemistry/ Immunofluorescence - Anti-PUMA antibody (ab9643)

Immunocytochemical analysis of K562 cells labeling PUMA with ab9643 at 1 µg/mL. Cells were fixed with formaldehyde and blocked with 10% serum for 1 hour at room temperature. Antigen retrieval was by heat mediation with a citrate buffer (pH 6.0). Samples were incubated with primary antibody overnight at 4˚C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counter stained with Hematoxylin.



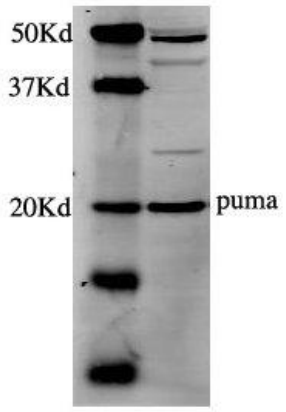

Western blot - Anti-PUMA antibody (ab9643)

**All lanes :** Anti-PUMA antibody (ab9643) at 2 µg/ml

**Lane 1 :** K562 cell lysate
**Lane 2 :** NIH3T3 cell lysate

Lysates/proteins at 15 µg per lane.

**Secondary**
**All lanes :** Goat anti-rabbit IgG HRP conjugate at 1/10000 dilution




Western blot - Anti-PUMA antibody (ab9643)
This image is courtesy of an anonymous Abreview

Anti-PUMA antibody (ab9643) at 1/1000 dilution + HeLa whole cell lysate

**Secondary**
Alexa Fluor 680-conjugated goat anti-rabbit IgG polyclonal at 1/1 dilution

**Observed band size:** 20 kDa
**Additional bands at:** 26 kDa (possible non-specific binding), 42 kDa (possible non-specific binding), 50 kDa (possible non-specific binding)

**Exposure time:** 5 seconds

Blocked with 5% milk for 1 hour.

Incubated with the primary antibody for 18 hours.

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