abcam

ab214790

Anti-p63 antibody [EPR5701] - BSA and Azide free

Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790) is a rabbit recombinant monoclonal antibody provided in a PBS only buffer for easy conjugation detecting p63 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF, mIHC**. Suitable for **Human, Mouse, Rat**.

- BSA, sodium azide, and glycerol-free for easy conjugation
- Multiplex IHC validated on the Leica BOND® MAX using Opal reagents
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | Advanced Validation

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	EPR5701
Purification technique	Affinity purification Protein A
Concentration	1.037 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

mIHC

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information TP63

Function Acts as a sequence specific DNA binding transcriptional activator or repressor. The isoforms contain a varying set of transactivation and auto-regulating transactivation inhibiting domains thus showing an isoform specific activity. Isoform 2 activates RIPK4 transcription. May be required in conjunction with TP73/p73 for initiation of p53/TP53 dependent apoptosis in response to genotoxic insults and the presence of activated oncogenes. Involved in Notch signaling by probably inducing JAG1 and JAG2. Plays a role in the regulation of epithelial morphogenesis. The ratio of DeltaN-type and TA*-type isoforms may govern the maintenance of epithelial stem cell compartments and regulate the initiation of epithelial stratification from the undifferentiated embryonal ectoderm. Required for limb formation from the apical ectodermal ridge. Activates transcription of the p21 promoter.

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

What is this antibody validated in?
Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF), Multiplex IHC (mIHC) in Human, Mouse, Rat samples.

What is the molecular weight of p63?
Anti-p63 [EPR5701] - BSA and Azide free (ab214790) specifically detects a band for p63 (UniProt: Q9H3D4) at a molecular weight of 77kDa.

Other related products
We have a range of other formats of antibody clone [EPR5701] also available for your convenience: ab124762, HRP - ab202357, Biotin - ab202861, Carrier free - ab214790, Alexa Fluor® 488 - ab246727, Alexa Fluor® 647 - ab246728

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	The p63 protein also known as TP63 or KET is a transcription factor that plays a role in the regulation of cell cycle and apoptosis. With a molecular mass of approximately 77 kDa it expresses predominantly in epithelial tissues such as those in the skin breast and prostate. The expression pattern of p63 makes it a useful marker in developmental biology and cancer diagnosis. Antibodies like '4A4' specifically recognize p63 in various assays including immunohistochemistry.
Biological function summary	P63 participates in the control of epithelial cell differentiation and proliferation. It functions as a member of the p53 family which includes p53 and p73. This family forms an important part of the complex regulatory network that maintains genomic stability. Research using methods like p63 staining in immunohistochemistry highlights its critical role in stratified epithelia. The gene encodes several isoforms with different biological activities impacting processes such as cellular senescence and development.
Pathways	P63 integrates into various signaling pathways that influence cellular growth and adherence. It notably impacts the Notch and Wnt pathways both of which are critical for developmental processes and cancer progression. Through these pathways p63 interacts with proteins like B-catenin and Notch receptors facilitating cross-talk that influences cell fate decisions. Its function relates closely to other transcription factors forming feedback loops that reinforce its regulatory impact.
Associated diseases and disorders	P63 shows strong associations with ectodermal dysplasia and different types of cancers like squamous cell carcinoma. Mutations and altered expressions of p63 contribute to these pathologies by disrupting normal cell proliferation and differentiation. The protein interacts closely with p73 in cancer suggesting a compensatory role when p63 function is compromised. Understanding these connections can guide the development of targeted therapies and improve diagnostic accuracy.

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.

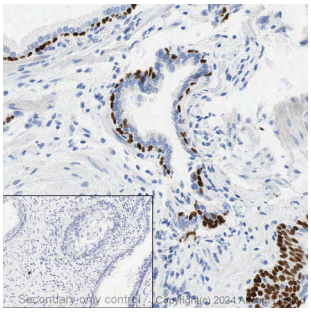
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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9 product images



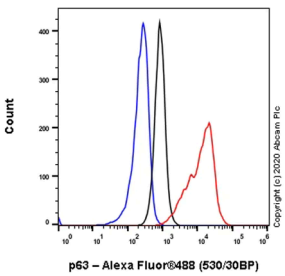
Immunohistochemistry - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab124762).

Immunohistochemical analysis of formalin fixed paraffin embedded human prostate labelling p63 with ab124762 at a concentration of 0.1 µg/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 32mins.

ab124762 anti-p63 [EPR5701] 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.

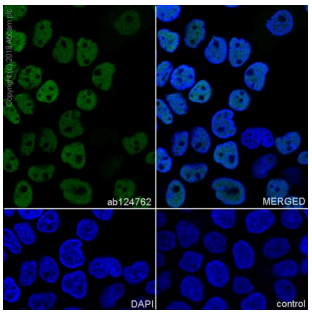
Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).



Flow Cytometry (Intracellular) - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

P63 Flow Cytometry (Intracellular) staining using rabbit Anti-p63 antibody

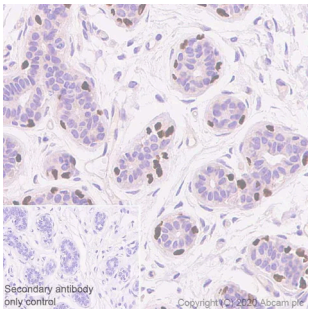
Intracellular Flow Cytometry analysis of A431 (Human epidermoid carcinoma epithelial cell) cells labeling p63 with Purified ab124762 at 1/80 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue). This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab124762).



Immunocytochemistry/ Immunofluorescence - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

P63 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-p63 antibody

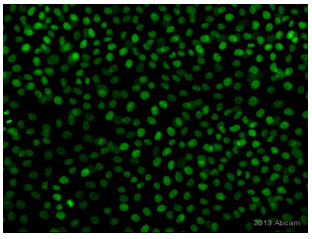
Immunocytochemistry/ Immunofluorescence analysis of A431(Human epidermoid carcinoma epithelial cell) cells labeling p63 with Purified ab124762 at 1/200 dilution (4 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab124762).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

P63 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-p63 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast tissue sections labeling p63 with Purified ab124762 at 1/5000 dilution (0.16 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab124762).

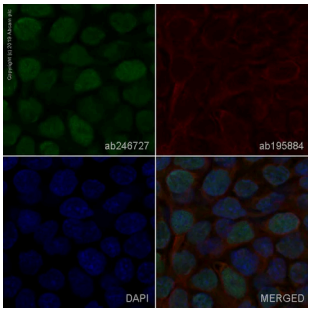


This image is courtesy of a customer review submitted by Manuel Chacon

Immunocytochemistry/ Immunofluorescence - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

P63 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-p63 antibody

Unpurified ab124762 staining p63 in Human corneal limbal epithelial cells (primary culture) by ICC/IF (immunocytochemistry/immunofluorescence). Cells were fixed with methanol and permeabilized with 0.3% Triton X-100 for 5 minutes. Samples were incubated with primary antibody (1/100 in PBS + 10% Goat serum) for 18 hours at 4°C. An Alexa Fluor® 488-conjugated Goat anti-rabbit IgG polyclonal (1/500) was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab124762).



Immunocytochemistry/ Immunofluorescence - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

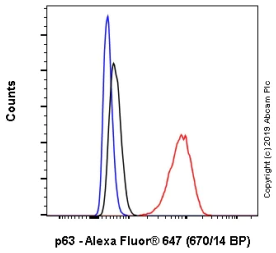
P63 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-p63 antibody

Clone EPR5701 (ab214790) has been successfully conjugated by Abcam. This image was generated using Anti-p63 antibody [EPR5701] (Alexa Fluor® 488). Please refer to ab246727 for protocol details.
ab246727 staining p63 in A431 cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at

+4°C with ab246727 at 1/100 dilution (shown in green) and ab195884, Rat monoclonal to Tubulin (Alexa Fluor® 647), at 1/250 dilution (shown in red). Nuclear DNA was labeled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in A431 cells fixed with 4% formaldehyde (10 min).



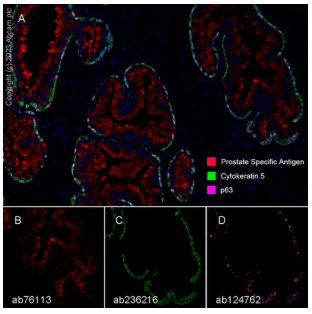
Flow Cytometry (Intracellular) - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

P63 Flow Cytometry (Intracellular) staining using rabbit Anti-p63 antibody

Clone EPR5701 (ab214790) has been successfully conjugated by Abcam. This image was generated using Anti-p63 antibody [EPR5701] (Alexa Fluor® 647). Please refer to ab246728 for protocol details. Overlay histogram showing A431 cells stained with ab246728 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal Goat serum to block non-specific protein-protein interactions followed by the antibody (ab246728) (1x 10^6 cells in 100µl at 0.08µg/ml (1/6250 dilution)) for 30 min at 22°C.

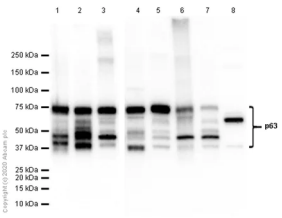
Isotype control antibody (black line) was Rabbit IgG (monoclonal) Alexa Fluor® 647 (ab199093) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control. Acquisition of >5000 events were collected using a 40 mW Red laser (640nm) and 670/14 bandpass filter.

This antibody gave a positive signal in A431 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Triton X-100 for 15 min used under the same conditions.



Multiplex immunohistochemistry - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

Fluorescence multiplex immunohistochemical analysis of human prostate gland tissue (formalin/PFA-fixed paraffin-embedded section). Panel A: merged staining of anti-p63 (ab124762, magenta; Opal™690), anti-Cytokeratin 5 (ab236216, green; Opal™520) and anti-Prostate Specific Antigen (ab76113, red; Opal™570) on human prostate gland tissue. Panel B: anti-Prostate Specific Antigen stained on luminal cells. Panel C: anti-Cytokeratin 5 stained on cytoplasm of basal cells. Panel D: anti-p63 stained on nucleus of basal cells. Opal Polymer HRP Ms + Rb was used as a secondary antibody. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. The section was incubated in three rounds of staining: in the order of ab124762 (1/5000), ab236216 (1/400), and ab76113 (1/2000) for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. Each round was followed by a separate fluorescent tyramide signal amplification system. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) was used for 20 mins. DAPI (blue) was used as a nuclear counter stain. Image acquisition was performed with Leica SP8 confocal microscope. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab124762).



Western blot - Anti-p63 antibody [EPR5701] - BSA and Azide free (ab214790)

P63 Western blot staining using rabbit Anti-p63 antibody

The bands observed are consistent with what have been described in PMID 30649915 as isoforms of p63.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab124762).

All lanes:
Western blot - Anti-p63 antibody [EPR5701] (ab124762) at 1/1000 dilution

Lane 1:
HaCaT (Human skin keratinocyte) whole cell lysates at 20 µg

Lane 2:
A431 (Human epidermoid carcinoma epithelial cell) whole cell lysates at 20 µg

Lane 3:
Mouse skin lysates at 20 µg

Lane 4:
Mouse thymus lysates at 20 µg

Lane 5:
Mouse bladder lysates at 20 µg

Lane 6:
Rat skin lysates at 20 µg

Lane 7:
Rat bladder lysates at 20 µg

Lane 8:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 77 kDa

Observed band size: 37-75 kDa

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