abcam

ab16700

Anti-Vimentin antibody [SP20]

Anti-Vimentin antibody [SP20] (ab16700) is a rabbit monoclonal antibody detecting Vimentin in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 100 publications
- Trusted since 2005

Lab Essentials | Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	SP20
Purification technique	Affinity purification Protein A
Specificity	We have data to show that ab16700 is not suitable for work on mouse tissue. For researchers working on mouse we recommend using ab92547. If you would like further information on this, please do not hesitate to contact our technical support team.
Concentration	0.0065 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat, Hamster, Cow, Xenopus laevis
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Hamster, Cow, Xenopus laevis
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200
Notes	Antigen Retrieval: None

Predicted

Species	Rat, Hamster, Cow, Xenopus laevis
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/1000
Notes	-

Predicted

Species	Rat, Hamster, Cow, Xenopus laevis
Dilution info	-
Notes	-

Target data

See full target information VIM

Function	Vimentins are class-III intermediate filaments found in various non-epithelial cells, especially mesenchymal cells. Vimentin is attached to the nucleus, endoplasmic reticulum, and mitochondria, either laterally or terminally. Plays a role in cell directional movement, orientation, cell sheet organization and Golgi complex polarization at the cell migration front (By similarity). Protects SCRIB from proteasomal degradation and facilitates its localization to intermediate filaments in a cell contact-mediated manner (By similarity). May promote axon outgrowth and motor fiber repair via DSP-mediated recruitment to outgrowth tips (By similarity). Involved with LARP6 in the stabilization of type I collagen mRNAs for CO1A1 and CO1A2.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Vimentin antibody [SP20] (ab16700) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of Vimentin?
Anti-Vimentin [SP20] (ab16700) specifically detects a band for Vimentin (UniProt: P08670) at a molecular weight of 53kDa.

Collaboration
Anti-Vimentin [SP20] (ab16700) is a clone from the portfolio of Spring Bioscience (Roche) SP clones which have been optimised for immunohistochemistry (IHC).

Trusted by the scientific community
Anti-Vimentin [SP20] (ab16700) was first used in a scientific publication in 2005 and has been cited over 100 times in peer-reviewed journals.

Reviewed by scientists
Anti-Vimentin [SP20] (ab16700) has over 5 independent reviews from customers.

Specificity confirmed
The specificity of Anti-Vimentin antibody [SP20] (ab16700) has been confirmed by Immunocytochemistry testing in VIM Knockout HAP1 cells.

Other related products
We have a range of other formats of antibody clone [SP20] also available for your convenience: ab16700, ab27608

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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

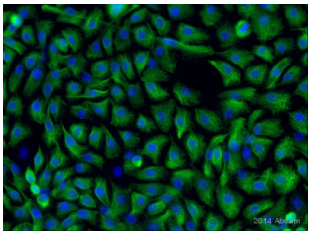
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images



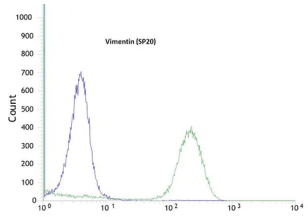
This image is courtesy of an anonymous customer review

Immunocytochemistry/ Immunofluorescence - Anti-Vimentin antibody [SP20] (ab16700)

Vimentin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Vimentin antibody

This image was generated using a previous batch manufactured using the hybridoma production method.

ab16700 staining Vimentin in human corneal limbal epithelial cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde and permeabilized with 0.3% Triton X-100 for 5 minutes. Samples were incubated with primary antibody (1/200 in PBS + 10% normal 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.

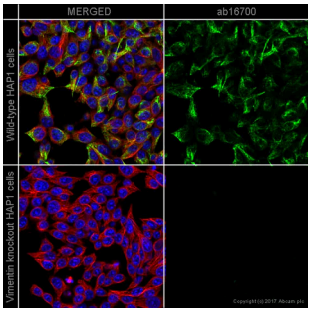


Flow Cytometry - Anti-Vimentin antibody [SP20] (ab16700)

Vimentin Flow Cytometry staining using rabbit Anti-Vimentin antibody

This image was generated using a previous batch manufactured using the hybridoma production method.

Flow cytometric analysis of rabbit anti-Vimentin (SP20) antibody ab16700 (1/100) in HeLa cells (green) compared to negative control of rabbit IgG (blue).



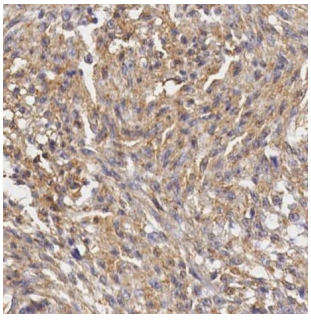
Immunocytochemistry/ Immunofluorescence - Anti-Vimentin antibody [SP20] (ab16700)

Vimentin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Vimentin antibody

This image was generated using a previous batch manufactured using the hybridoma production method.

ab16700 staining Vimentin in wild-type HAP1 cells (top panel) and Vimentin knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5min), 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 with ab16700 at 1/1000 dilution and ab195889 at 1/250 dilution (shown in pseudo-color red) overnight at +4°C. The cells were then incubated with ab150081 (Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488)) at 1/1000 dilution for 1 hour. Nuclear DNA was labelled in blue with DAPI.

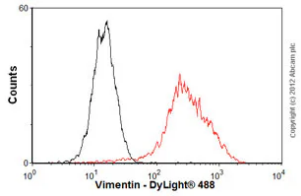
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vimentin antibody [SP20] (ab16700)

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

Immunohistochemical analysis of paraffin-embedded Human melanoma tissue labeling Vimentin with ab16700 at 1/200 dilution. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins.

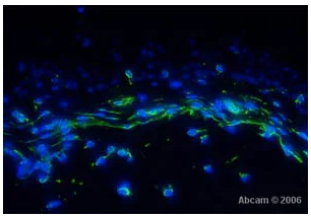


Flow Cytometry - Anti-Vimentin antibody [SP20] (ab16700)

Vimentin Flow Cytometry staining using rabbit Anti-Vimentin antibody

This image was generated using a previous batch manufactured using the hybridoma production method.

Overlay histogram showing HeLa cells stained with ab16700 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab16700, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



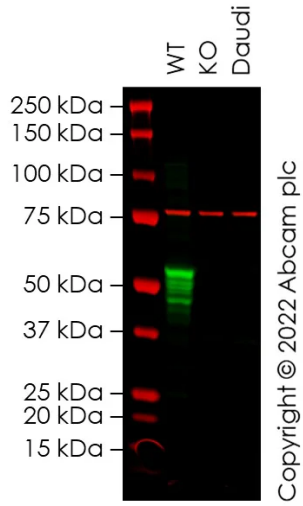
This image is courtesy of a customer review submitted by Miss Szu-Yu Chen

Immunocytochemistry/ Immunofluorescence - Anti-Vimentin antibody [SP20] (ab16700)

Vimentin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Vimentin antibody

This image was generated using a previous batch manufactured using the hybridoma production method.

ab16700 at 1/200 staining Human Limbal Epithelial Cells by ICC/IF. The cells were incubated with the antibody for 1 hour and then a FITC conjugated goat antibody was used as the secondary. The image shows vimentin staining in green and hoechst staining in blue. The upper cells in the image (vimentin negative) are epithelium cells. the vimentin positive cells are stroma cells.



Western blot - Anti-Vimentin antibody [SP20] (ab16700)

Vimentin Western blot staining using rabbit Anti-Vimentin antibody

This image was generated using a previous batch manufactured using the hybridoma production method.

False colour image of Western blot: Anti-Vimentin antibody [SP20] staining at 1/120 dilution, shown in green; Mouse anti-CANX [CANX/1543] (ab238078) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab16700 was shown to bind specifically to Vimentin. A band was observed at 55 kDa in wild-type A549 cell lysates with no signal observed at this size in VIM knockout cell line ab288984. To generate this image, wild-type and VIM 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 3 % 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-Vimentin antibody [SP20] (ab16700) at 1/120 dilution

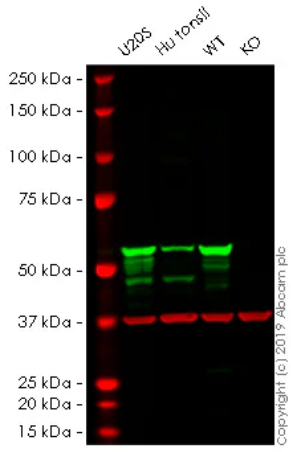
Lane 1:
Wild-type A549 cell lysate at 20 µg

Lane 2:
Vimentin knockout A549 cell lysate at 20 µg

Lane 3:
Daudi cell lysate at 20 µg

Performed under reducing conditions.

Observed band size: 55 kDa



Western blot - Anti-Vimentin antibody [SP20] (ab16700)

Vimentin Western blot staining using rabbit Anti-Vimentin antibody

This image was generated using a previous batch manufactured using the hybridoma production method.

Lanes 1 - 4: Merged signal (red and green). Green - ab16700 observed at 53 kDa. Red - loading control, ab8245 observed at 37 kDa.
ab16700 was shown to react with Vimentin in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab255446 (knockout cell lysate ab263775) was used. Wild-type and Vimentin knockout samples were subjected to SDS-PAGE. ab16700 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 100 dilution and 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.

Lanes 1 - 4:
Western blot - Anti-Vimentin antibody [SP20], prediluted (ab27608) at 1/100 dilution

Lanes 1 - 4:
Western blot - Anti-Vimentin antibody [SP20] (ab16700) at 1/100 dilution

Lane 1:
U20S cell lysate at 20 µg

Lane 2:
Human tonsil cell lysate at 20 µg

Lane 2:
Western blot - Human VIM (Vimentin) knockout HeLa cell line (ab255446)

Lane 3:
Wild-type HeLa cell lysate at 20 µg

Lane 4:
VIM knockout HeLa cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 53 kDa

Observed band size: 37 kDa, 53 kDa

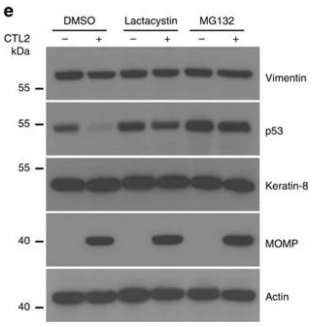


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Western blot - Anti-Vimentin antibody [SP20] (ab16700)

Vimentin Western blot staining using rabbit Anti-Vimentin antibody

Western Blotting using Anti-Vimentin antibody [SP20], ab16700. Publication image from Loewer, A. et al., 2014, Nat Commun, 25392082. Legend direct from paper.

Chlamydia induces p53 degradation.(a) Western blotting analysis showing progressive degradation of totalp53 protein between24 and 48 h p.i. in CTL2-infected whole-cell lysates(MOI=1). Chlamydial Hsp60and β-actinserved as infection and loading controls, respectively. (b)Representative time-lapse microscopy images of p53-Venus-expressing cells infectedwith CTL2 (MOI=0.5) from 24 to 40 h p.i. Nuclei from infected anduninfected cells are presented as montages as indicated. (c)Individual cells were tracked and the average nuclear Venus fluorescence (ingreen) measured. Normalized trajectories of p53-Venus levels are shown.Vertical dashed line indicates time of cell division. Scale bar,20 µm. (d) The fraction of cells showing nopulse, 1 or 2 pulses or more than 3 pulses between 24 and 48 hp.i. The frequency of p53pulses from >60 infected or uninfected cells were quantified. Errorbars present the standard error of the proportion. (e) Westernblotting showing decreased degradation of total p53 and non-cleavage ofkeratin 8 andvimentin inwhole-cell lysates prepared from cells infected with CTL2 (MOI=1) for48 h and treated with the proteasome inhibitors lactacystin or MG132 (150 µM)from 47 h p.i. Chlamydial Major Outer Membrane Protein (MOMP) and β-actin served asinfection and loading controls, respectively. Full blots for a ande are shown in Supplementary Fig. 7.

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