abcam

ab45939

Anti-Vimentin antibody - Cytoskeleton Marker

Anti-Vimentin antibody - Cytoskeleton Marker (ab45939) is a rabbit polyclonal antibody detecting Vimentin in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- KO validated for confirmed specificity
- Over 190 publications
- Trusted since 2007

Lab Essentials | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Purification technique	Affinity purification Immunogen
Specificity	Replenishment batches of our polyclonal antibody, ab45939 are tested in WB. Previous batches were additionally validated in Flow Cyt, ICC/IF and IHC-P. These applications are still expected to work and are covered by our Abpromise guarantee. You may also be interested in our alternative recombinant antibody, ab92547.
Concentration	0.8 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	0.1 µg/mL
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

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

Predicted

Species	Sheep, Rabbit, Horse, Chicken, Cow, Pig, Chimpanzee
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	0.01-0.1 µg for 10^5 Cells
Notes	-

Species	Rat
Dilution info	0.01-0.1 µg for 10^5 Cells
Notes	-

Species	Human
Dilution info	0.01-0.1 µg for 10^5 Cells
Notes	-

Predicted

Species	Sheep, Rabbit, Horse, Chicken, Cow, Pig, Chimpanzee
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Species	Rat
Dilution info	1 µg/mL
Notes	-

Species	Human
Dilution info	1 µg/mL
Notes	-

Predicted

Species	Sheep, Rabbit, Horse, Chicken, Cow, Pig, Chimpanzee
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Species	Human
Dilution info	1 µg/mL

Notes	-

Expected

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

Predicted

Species	Sheep, Rabbit, Horse, Chicken, Cow, Pig, Chimpanzee
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	Blue Ice
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 - Cytoskeleton Marker (ab45939) is a rabbit polyclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of Vimentin?
Anti-Vimentin - Cytoskeleton Marker (ab45939) specifically detects a band for Vimentin (UniProt: P08670) at a molecular weight of 54kDa.

Trusted by the scientific community
Anti-Vimentin - Cytoskeleton Marker (ab45939) was first used in a scientific publication in 2007 and has been cited over 190 times in peer-reviewed journals.

Reviewed by scientists
Anti-Vimentin - Cytoskeleton Marker (ab45939) has over 15 independent reviews from customers.

Specificity confirmed
The specificity of Anti-Vimentin antibody - Cytoskeleton Marker (ab45939) has been confirmed by Immunocytochemistry testing in VIM Knockout HAP1 cells.

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.

13 product images



Western blot - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

All lanes:
Western blot - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939) at 1 µg/mL

Lane 1:
HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 10 µg

Lane 2:
Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate at 10 µg

Lane 3:
HEK293 Human embryonic kidney cell line Whole Cell Lysate at 10 µg

Lane 4:
Ramos (Human Burkitt's lymphoma cell line) Whole Cell Lysate at 10 µg

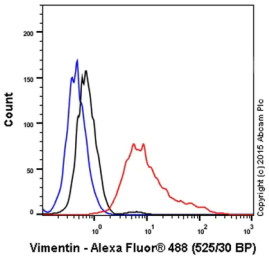
Secondary

All lanes:
IRDye 680 Conjugated Goat Anti-Rabbit IgG (H+L) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 53 kDa

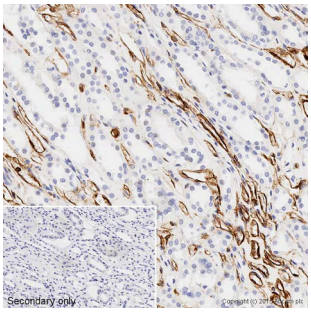
Observed band size: 54 kDa



Flow Cytometry (Intracellular) - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

Vimentin Flow Cytometry (Intracellular) staining using rabbit Anti-Vimentin antibody

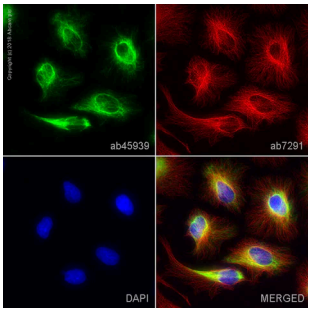
Overlay histogram showing MDA-MB-231 cells stained with ab45939 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab45939, 0.01µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150081) at 1/4000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (polyclonal) (ab171870, 0.01µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

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

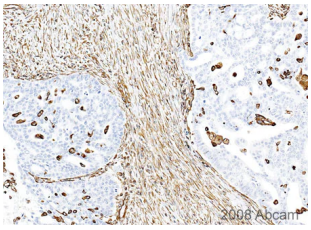
IHC image of ab45939 staining Vimentin in human kidney formalin fixed paraffin embedded tissue sections*, performed on a Leica Bond. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab45939, 0.1µg/ml working concentration, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. No primary antibody was used in the secondary only control (shown on the inset).
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.
*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre



Immunocytochemistry/ Immunofluorescence - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

Vimentin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Vimentin antibody

ab45939 staining Vimentin in HeLa cells. 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 overnight at +4°C with ab45939 at 1µg/ml and ab7291, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control, at 1/1000 dilution. Cells were then incubated with ab150120, Goat polyclonal Secondary Antibody to Mouse at 1/1000 dilution (shown in pseudocolour red) and ab150081, Goat polyclonal Secondary Antibody to Rabbit IgG at 1/1000 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).

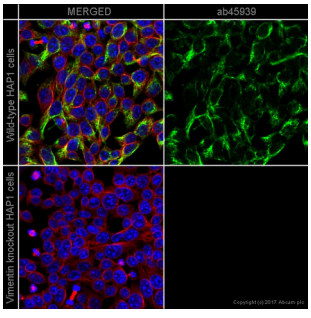


This image is courtesy of Carl Hobbs, King's College London, United Kingdom

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

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

Immunohistochemical detection (formaldehyde/paraffin-embedded sections) of vimentin protein using vimentin antibody - Neural Stem Cell Marker (ab45939) on human ovarian carcinoma sections. Antigen retrieval step:Heat mediated. Blocking step: 1% BSA for 10 mins at RT°C. ab45939 was used at 1/700 for 1 hour. Secondary Antibody: Biotin-conjugated anti rabbit IG (1/300).

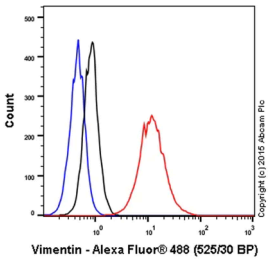


Immunocytochemistry/ Immunofluorescence - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

Vimentin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Vimentin antibody

ab45939 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

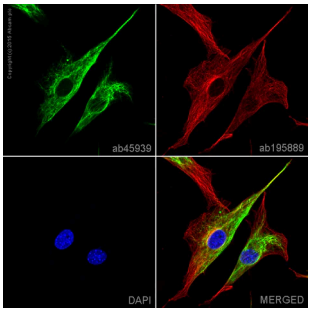
X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab45939 at 1µg/ml dilution and ab195889 at 1/250 dilution (shown in pseudo-color red) overnight at +4°C. The cells were then incubated with ab150081 (Goat Anti-Rabbit 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).



Flow Cytometry (Intracellular) - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

Vimentin Flow Cytometry (Intracellular) staining using rabbit Anti-Vimentin antibody

Overlay histogram showing NIH3T3 cells stained with ab45939 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 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 (ab45939, 0.1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150081) at 1/4000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (polyclonal) (ab171870, 0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunocytochemistry/ Immunofluorescence - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

Vimentin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Vimentin antibody

ab45939 staining Vimentin in NIH3T3 cells. 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 overnight at +4°C with ab45939 at 1µg/ml (shown in green) and ab195889, Mouse monoclonal [DM1A] to alpha Tubulin - Microtubule Marker (Alexa Fluor® 594), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

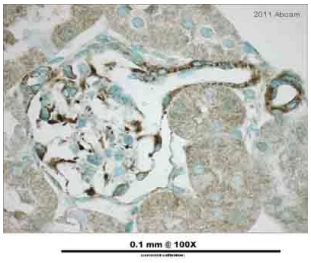
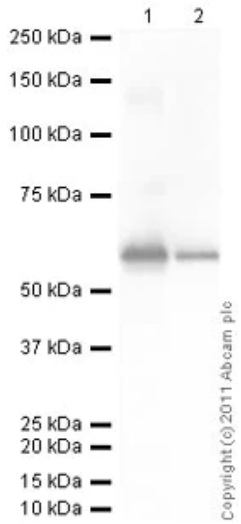


Image courtesy of Mike Forbes by customer review.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

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

ab45939 staining Vimentin in murine kidney tissue by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Tissue was fixed with formaldehyde and a heat mediated antigen retrieval step was performed. Samples were then blocked with 10% serum for 30 minutes at room temperature followed by incubation with the primary antibody at a 1/2100 dilution for 18 hours at 4°C. A biotin-conjugated goat anti-rabbit polyclonal was used as secondary antibody at a 1/200 dilution.



Western blot - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

Vimentin Western blot staining using rabbit Anti-Vimentin antibody

ab45939 recognizes full length recombinant Human vimentin (ab73843) which has an expected molecular weight of 54 kDa.
All lanes:
Western blot - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939) at 1 µg/mL

Lane 1:
Recombinant Human Vimentin protein (ab73843) at 0.1 µg

Lane 2:
Recombinant Human Vimentin protein (ab73843) at 0.01 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

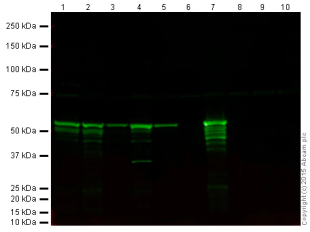
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 53 kDa

Observed band size: 54 kDa

Exposure time: 10s



Western blot - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

Vimentin Western blot staining using rabbit Anti-Vimentin antibody

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using Licor blocking buffer before being incubated with ab45939 overnight at 4°C. The membrane was then blocked for an hour using LI-COR® blocking buffer before being incubated with ab92547 overnight at 4°C. Antibody binding was detected using the IRDye® 800CW Goat Anti-Rabbit secondary at a 1:10,000 dilution for 1hr at room temperature and then imaged using the Odyssey® CLx Imaging System.
All lanes:
Western blot - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939) at 1 µg/mL

Lane 1:
HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 20 µg

Lane 2:
HEK293 (Human embryonic kidney cell line) Whole Cell Lysate at 20 µg

Lane 3:
Jurkat (Human T cell lymphoblast-like cell line) Whole cell lysate at 20 µg

Lane 4:
A549 (Human lung adenocarcinoma epithelial cell line) Whole cell lysate at 20 µg

Lane 5:
NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate at 20 µg

Lane 6:
PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate at 20 µg

Lane 7:
HUVEC (Human umbilical vein endothelial cell line) Whole cell lysate at 20 µg

Lane 8:
A431 (Human epithelial carcinoma cell line) Whole cell lysate at 20 µg

Lane 9:
Daudi (Human B lymphoblast) Whole cell lysate at 20 µg

Lane 10:
Caco 2 (Human colonic carcinoma cell line) Whole Cell Lysate at 20 µg

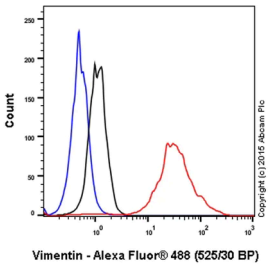
Secondary

All lanes:
IRDye® 800CW Goat Anti-Rabbit at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 53 kDa

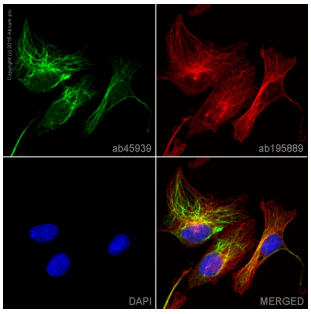
Observed band size: 53 kDa



Flow Cytometry (Intracellular) - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

Vimentin Flow Cytometry (Intracellular) staining using rabbit Anti-Vimentin antibody

Overlay histogram showing SV40LT-SMC cells stained with ab45939 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 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 (ab45939, 0.01µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150081) at 1/4000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (polyclonal) (ab171870, 0.01µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunocytochemistry/ Immunofluorescence - Anti-Vimentin antibody - Cytoskeleton Marker (ab45939)

ab45939 staining Vimentin in SV40LT-SMC cells. The cells were fixed with 4% formaldehyde (10min), 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 ab45939 at 1µg/ml (shown in green) and ab195889, Mouse monoclonal [DM1A] to alpha Tubulin - Microtubule Marker (Alexa Fluor® 594), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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