abcam

ab318152

Anti-VE Cadherin antibody [RM2022]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM2022
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for human FC-intra, mouse IP.
Concentration	0.488 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Rat

Dilution info	-
Notes	-

Target data

See full target information CDH5

Function	Cadherins are calcium-dependent cell adhesion proteins (By similarity). They preferentially interact with themselves in a homophilic manner in connecting cells; cadherins may thus contribute to the sorting of heterogeneous cell types (PubMed:21269602). This cadherin may play a important role in endothelial cell biology through control of the cohesion and organization of the intercellular junctions (By similarity). It associates with alpha-catenin forming a link to the cytoskeleton (PubMed:10861224). Plays a role in coupling actin fibers to cell junctions in endothelial cells, via acting as a cell junctional complex anchor for AMOTL2 and MAGI1 (By similarity). Acts in concert with KRIT1 and PALS1 to establish and maintain correct endothelial cell polarity and vascular lumen (By similarity). These effects are mediated by recruitment and activation of the Par polarity complex and RAP1B (PubMed:20332120). Positively regulates reorientation of actin stress fibers and endothelial cell reorientation in response to cellular mechantransduction (PubMed:25795300). Required for activation of PRKCZ and for the localization of phosphorylated PRKCZ, PARD3, TIAM1 and RAP1B to the cell junction (PubMed:20332120). Associates with CTNND1/p120-catenin to control CADH5 endocytosis (By similarity).

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 are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light

chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	VE Cadherin also known as CD144 or Cadherin-5 is a protein of about 135 kDa involved in cell adhesion. It is a transmembrane protein characterized by its presence at endothelial cell junctions. VE Cadherin belongs to the cadherin superfamily and its expression predominantly occurs in vascular endothelial cells. This protein facilitates the adhesion between adjacent endothelial cells maintaining the integrity of endothelial barriers.
Biological function summary	VE Cadherin performs essential roles in vascular development and permeability. It is a component of adherens junctions and connects with catenins to mediate cell-cell adhesion through calcium-dependent binding. This protein's adhesive function is critical for blood vessel maturation and response to inflammatory stimuli. Altering VE Cadherin expression impacts vascular stability and endothelial cell layering.
Pathways	VE Cadherin interacts with the Wnt and VEGF signaling pathways. It plays a role in the regulation of endothelial cell survival and migration. The interaction with β-catenin is important in the Wnt pathway influencing the transcription of target genes that modulate cell behavior. In the VEGF pathway VE Cadherin's association with protein kinase C highlights its involvement in endothelial permeability and angiogenesis processes.
Associated diseases and disorders	VE Cadherin dysregulation links to cancer progression and atherosclerosis. Its role in maintaining endothelial barrier integrity implicates it in tumor metastasis where disrupted cell adhesion facilitates cancer cell dissemination. Additionally altered VE Cadherin expression or function associates with atherosclerotic disease where damaged vascular endothelium leads to plaque formation. The connection of VE Cadherin with β-catenin in these conditions highlights its significance in pathological angiogenesis and vascular remodeling.

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

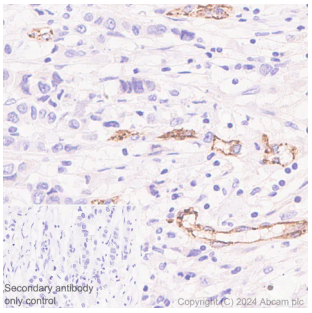
We do not recommend this combination. It is not covered by our product promise.

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



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-VE Cadherin antibody [RM2022] (ab318152)

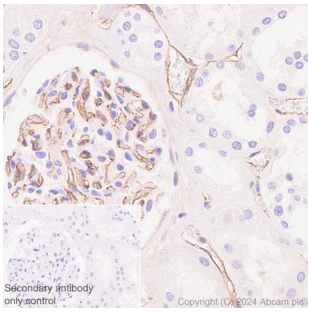
Immunohistochemical analysis of paraffin-embedded Human breast cancer tissue labeling VE Cadherin with ab318152 at 1/500 (1.028 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Membranous staining on endothelium of human breast cancer (PMID: 18316602). The section was incubated with ab318152 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-VE Cadherin antibody [RM2022] (ab318152)

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling VE Cadherin with ab318152 at 1/500 (1.028 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

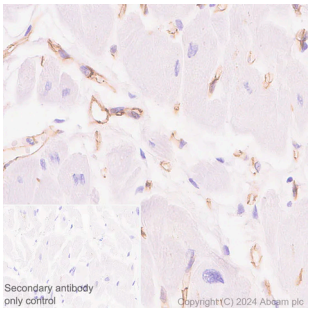
Membranous staining on endothelium of human kidney (PMID: 29846473). The section was incubated with ab318152 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

---



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-VE Cadherin antibody [RM2022] (ab318152)

Immunohistochemical analysis of paraffin-embedded Human cardiac muscle tissue labeling VE Cadherin with ab318152 at 1/500 (1.028 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

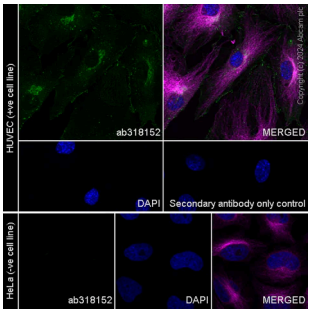
Membranous staining on endothelium of human cardiac muscle. The section was incubated with ab318152 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

---



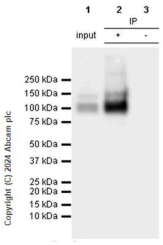
Immunocytochemistry/ Immunofluorescence - Anti-VE Cadherin antibody [RM2022] (ab318152)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HUVEC (human umbilical vein endothelial cell) cells labelling VE Cadherin with ab318152 at 1/500 (1.028 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing membranous and cytoplasmic staining in HUVEC cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).
Negative control: Hela (PMID: 35164755).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunoprecipitation - Anti-VE Cadherin antibody [RM2022] (ab318152)

VE Cadherin was immunoprecipitated from 0.35 mg HUVEC (human umbilical vein endothelial cell) whole cell lysate with ab318152 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab318152 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: HUVEC (human umbilical vein endothelial cell) whole cell lysate
Lane 2: ab318152 IP in HUVEC (human umbilical vein endothelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab318152 in HUVEC whole cell lysate

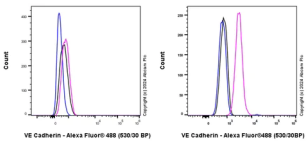
All lanes:
Immunoprecipitation - Anti-VE Cadherin antibody [RM2022] (ab318152) at 1/30 dilution

All lanes:
HUVEC (human umbilical vein endothelial cell) whole cell lysate at 10 µg

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 3s

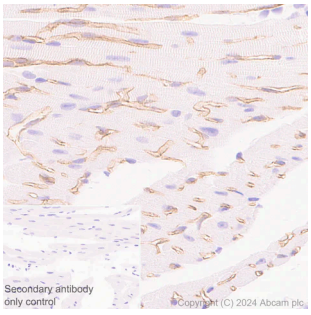


Flow Cytometry (Intracellular) - Anti-VE Cadherin antibody [RM2022] (ab318152)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized C2C12 (mouse myoblast, Left) / bEnd.3 (mouse brain endothelial cell, Right) cells labelling VE Cadherin with ab318152 at 1/500 dilution (0.1 ug)/Magenta compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Negative control: C2C12.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-VE Cadherin antibody [RM2022] (ab318152)

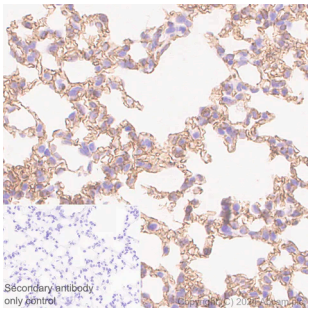
Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle tissue labeling VE Cadherin with ab318152 at 1/500 (1.028 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Membranous staining on endothelium of mouse cardiac muscle. The section was incubated with ab318152 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-VE Cadherin antibody [RM2022] (ab318152)

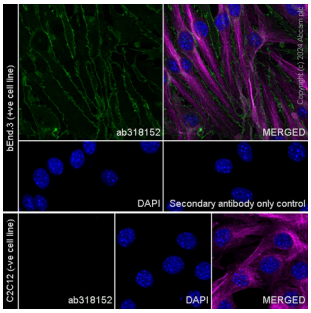
Immunohistochemical analysis of paraffin-embedded Mouse lung tissue labeling VE Cadherin with ab318152 at 1/500 (1.028 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Membranous staining on endothelium of mouse lung. The section was incubated with ab318152 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



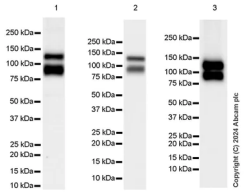
Immunocytochemistry/ Immunofluorescence - Anti-VE Cadherin antibody [RM2022] (ab318152)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized bEnd.3 (mouse brain endothelial cell) cells labelling VE Cadherin with ab318152 at 1/500 (1.028 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing membranous staining in bEnd.3 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).
Negative control: C2C12
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Western blot - Anti-VE Cadherin antibody [RM2022] (ab318152)

VE Cadherin Western blot staining using rabbit Anti-VE Cadherin antibody

Samples are non-boiled as boiling may cause protein aggregation.

Exposure time: Lane 1: 3 seconds, Lanes 2-3: 6 seconds

All lanes:

Western blot - Anti-VE Cadherin antibody [RM2022] (ab318152) at 1/1000 dilution

Lane 1:
Human lung tissue lysate at 20 µg

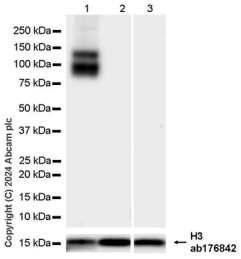
Lane 2:
Human placenta tissue lysate at 20 µg

Lane 3:
Human kidney tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 75-120 kDa



Western blot - Anti-VE Cadherin antibody [RM2022] (ab318152)

VE Cadherin Western blot staining using rabbit Anti-VE Cadherin antibody

Negative control: Hela (PMID: 35164755), PANC-1

The molecular weight observed is consistent with what has been described in the literature (PMID: 36631513).

Samples are non-boiled as boiling may cause protein aggregation.

In Western blot, Anti-Histone H3 antibody [EPR16987] - Nuclear Marker and ChIP Grade (ab176842) staining at 1/100000 dilution.

All lanes:
Western blot - Anti-VE Cadherin antibody [RM2022] (ab318152) at 1/1000 dilution

Lane 1:
HUVEC (human umbilical vein endothelial cell) whole cell lysate at 20 µg

Lane 2:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 20 µg

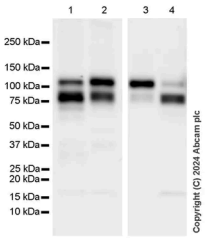
Lane 3:
PANC-1 (human pancreatic epithelioid carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 75-120 kDa, 15 kDa

Exposure time: 15s



Western blot - Anti-VE Cadherin antibody [RM2022] (ab318152)

VE Cadherin Western blot staining using rabbit Anti-VE Cadherin antibody

Samples are non-boiled as boiling may cause protein aggregation.

Exposure time: Lanes 1-2 6 seconds, Lane 3-4: 15 seconds

All lanes:
Western blot - Anti-VE Cadherin antibody [RM2022] (ab318152) at 1/1000 dilution

Lane 1:
Mouse lung tissue lysate at 20 µg

Lane 2:
Mouse placenta tissue lysate at 20 µg

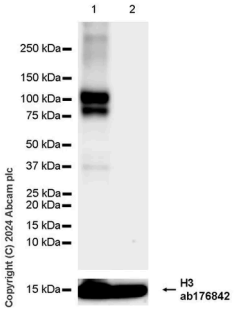
Lane 3:
Mouse heart tissue lysate at 20 µg

Lane 4:
Mouse kidney tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 75-120 kDa



Western blot - Anti-VE Cadherin antibody [RM2022] (ab318152)

VE Cadherin Western blot staining using rabbit Anti-VE Cadherin antibody

Negative control: C2C12

Samples are non-boiled as boiling may cause protein aggregation.

In Western blot, Anti-Histone H3 antibody [EPR16987] - Nuclear Marker and ChIP Grade (ab176842) staining at 1/100000 dilution.

All lanes:
Western blot - Anti-VE Cadherin antibody [RM2022] (ab318152) at 1/1000 dilution

Lane 1:
bEnd.3 (mouse brain endothelial cell) whole cell lysate at 20 µg

Lane 2:
C2C12 (mouse myoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 75-120 kDa, 15 kDa

Exposure time: 3s

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