abcam

ab256145

Anti-PLVAP/PV-1 antibody [MECA-32] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG2a
Host species	Rat
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	MECA-32
Purification technique	Ion exchange chromatography
Concentration	1.004 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information PLVAP

Function	Endothelial cell-specific membrane protein involved in the formation of the diaphragms that bridge endothelial fenestrae. It is also required for the formation of stomata of caveolae and transendothelial channels. Functions in microvascular permeability, endothelial fenestrae contributing to the passage of water and solutes and regulating transcellular versus paracellular flow in different organs. Plays a specific role in embryonic development.

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

ab256145 is the carrier-free version of ab27853.
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.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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	PLVAP also known as PV-1 is a transmembrane protein that plays a significant role in organizing the stomatal and fenestral diaphragms of endothelial cells. It weighs approximately 60 kDa. This protein is mainly expressed in fenestrated capillaries and sinusoidal endothelium where it forms diaphragms and contributes to the permeability and ultrastructure of capillary beds. PLVAP's role in endothelial cells highlights its importance in maintaining vascular permeability and cellular structures.
Biological function summary	The functions of PLVAP are significant in maintaining an organized structure within endothelial cells. It forms part of the complex structure that comprises the diaphragms of endothelial fenestrae transendothelial channels and caveolae. These structures are necessary for regulating fluid exchange and molecular transport between blood and tissue. The presence of PLVAP at these sites signals its role in modulating vascular barrier functions essential for efficient blood-tissue communication.
Pathways	Researchers have identified PLVAP's involvement in important vascular and endothelial pathways. It plays a critical part in the VEGF signaling pathway which

	regulates vascular permeability and endothelial cell behavior. PLVAP is closely associated with other proteins like VE-cadherin and claudin-5 that ensure cohesion and permeability in endothelial cells. In pathways regulating vascular permeability PLVAP's presence helps mediate fluid exchange and maintain tissue homeostasis.
Associated diseases and disorders	PLVAP associates with conditions involving vascular dysregulation. Hypo- or hyper-expression of PLVAP can relate to the pathogenesis of cancer and inflammatory diseases. In cancer changes in PLVAP expression might contribute to altered tumor vasculature and metastasis often in association with proteins like VEGF and VEGFR-2. Furthermore inflammatory diseases such as atherosclerosis see changes in the protein expression levels that might disrupt vascular integrity linking them with proteins involved in inflammatory responses like ICAM-1 and VCAM-1.

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

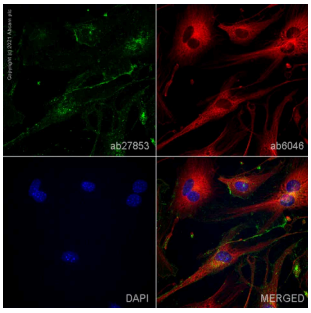
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

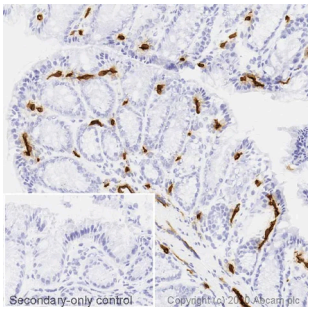


Immunocytochemistry/ Immunofluorescence - Anti-PLVAP/PV-1 antibody [MECA-32] - BSA and Azide free (ab256145)

PLVAP/PV-1 Immunocytochemistry/ Immunofluorescence staining using rat Anti-PLVAP/PV-1 antibody

This data was developed using ab27853, the same antibody clone in a different buffer formulation. ab27853 staining PLVAP/PV-1 in b.End3 cells. The cells were fixed with 4% paraformaldehyde (10 minutes), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1 hour. The cells were then incubated overnight at 4°C with ab27853 at 2 µg/mL and ab6046, Rabbit polyclonal to beta Tubulin - Loading Control. Cells were then incubated with ab150165, Goat polyclonal Secondary Antibody to Rat IgG - H&L (Alexa Fluor® 488), pre-absorbed at 1/1000 dilution (shown in green) and ab150080, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 594) at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue). Also suitable in cells fixed with 100% methanol (5 minutes).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.

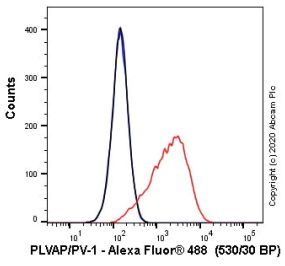


Immunohistochemistry (Frozen sections) - Anti-PLVAP/PV-1 antibody [MECA-32] - BSA and Azide free (ab256145)

PLVAP/PV-1 Immunohistochemistry (Frozen sections) staining using rat Anti-PLVAP/PV-1 antibody

This data was developed using ab27853, the same antibody clone in a different buffer formulation. IHC image of PLVAP/PV-1 staining in a section of frozen normal mouse large intestine performed on a Leica BOND™ system using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab27853, 1 µg/mL, 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. The inset secondary-only control image is taken from an identical assay without primary antibody.

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.



Flow Cytometry - Anti-PLVAP/PV-1 antibody [MECA-32] - BSA and Azide free (ab256145)

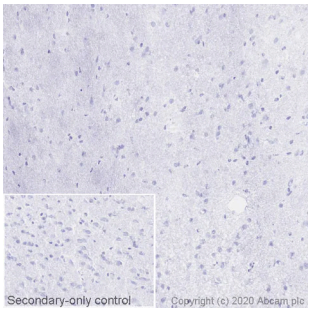
PLVAP/PV-1 Flow Cytometry staining using rat Anti-PLVAP/PV-1 antibody

This data was developed using ab27853, the same antibody clone in a different buffer formulation. Flow cytometry overlay histogram showing bEND.3 (mouse brain endothelioma cell line) cells stained with ab27853 (red line). The cells were incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab27853) ($1x10^6$ in 100 µL at 1 µg/mL) for 30 min on ice.

The secondary antibody Goat anti-rat IgG H&L (Alexa Fluor® 488, pre-adsorbed) (ab150165) was used at 1/2000 for 30 min on ice.

Isotype control antibody (black line) was Rat IgG2aκ (ab18450) 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 50 mW Blue laser (488nm) and 530/30 bandpass filter.



Immunohistochemistry (Frozen sections) - Anti-PLVAP/PV-1 antibody [MECA-32] - BSA and Azide free (ab256145)

PLVAP/PV-1 Immunohistochemistry (Frozen sections) staining using rat Anti-PLVAP/PV-1 antibody

This data was developed using ab27853, the same antibody clone in a different buffer formulation. IHC image of PLVAP/PV-1 staining in a section of frozen normal mouse brain performed on a Leica BOND™ system using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab27853, 1 µg/mL, 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. The inset secondary-only control image is taken from an identical assay without primary antibody. Mouse brain tissue is a negative control tissue, showing no staining of the primary antibody.

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.

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