abcam

ab78451

FITC Anti-CD146 antibody [P1H12]

Anti-CD146 antibody [P1H12] conjugated to FITC - suitable for flow cytometry, and reacts with human samples. Clone [P1H12] is a mouse monoclonal antibody and one of the most commonly used clones for flow cytometry.

Design your panel with our interactive flow cytometry panel builder. Click here.

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.6 Preservative: 0.1% Sodium azide Constituents: PBS, 1.5% BSA, 1.45% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing MCAM protein. The exact immunogen used to generate this antibody is proprietary information. Database link P43121
Clone number	P1H12
Purification technique	Affinity purification Immunogen
Specificity	ab78451 reacts specifically with CD146. In blood and marrow ab78451 reacts only with endothelial cells, and has been used to detect circulating endothelial cells in human, dogs, rabbits and mouse samples. ab78451 positively stains normal, primary HUVEC and MVEC cultures and the endothelial cells of all vessels in normal frozen sections of human skin, intestine, ovary tonsil, lymph node, lung, and kidney. It does not stain carcinoma cell lines HT-29 and COLO205, and M21, the T cell lines Jurkat and HuT78, fibroblasts, HL-60 or CHO cells, EBV-transformed B cell lines, normal monocytes, granulocytes, red cells, platelets, T cells or B cells from marrow or peripheral blood; nor does it detect marrow megakaryocytes or the megakaryoblast line HU3. The peripheral blood cells that do stain with ab78451 are also positive for both von Willebrand Factor (vWF) and thrombomodulin (the combined expression of which is limited to endothelium), and they stain for flt and flk. In recent testing, melanoma A2058, SKMEL.3 and A375.S2 are positive, while

murine melanoma M3 is negative. One smooth muscle line (HISM) was positive and one negative (TIGHA-VSMC). Human blood lymphoctes are negative with or without prior stimulation. We have data to indicate that this antibody may not cross react with Rat. However, this has not been conclusively tested and expression levels may vary in certain cell lines/tissues.

Concentration 1 mg/mL The concentration of this product may be batch-dependent

Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	2 µg for 10^6 Cells
Notes	Methanol fixed cells. ab91356 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information MCAM

Function Plays a role in cell adhesion, and in cohesion of the endothelial monolayer at intercellular junctions in vascular tissue. Its expression may allow melanoma cells to interact with cellular elements of the vascular system, thereby enhancing hematogeneous tumor spread. Could be an adhesion molecule active in neural crest cells during embryonic development. Acts as a surface receptor that triggers tyrosine phosphorylation of FYN and PTK2/FAK1, and a transient increase in the intracellular calcium concentration.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Supplementary info

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

Activity summary	CD146 also known as MCAM or MUC18 is a cell adhesion molecule that belongs to the immunoglobulin superfamily. With a mass of approximately 113 kDa CD146 is expressed mainly on the surface of endothelial cells but it can also be found on smooth muscle cells some T-cells and in certain cancerous tissues. This protein plays a role in cell-cell adhesion contributing to the integrity and signaling functions within tissue microenvironments.
Biological function summary	CD146 influences the migration and organization of cells within the vascular system. It serves as a component of cell adhesion complexes facilitating interactions between endothelial cells and other cell types. Additionally CD146 contributes to angiogenesis the process by which new blood vessels form from existing vasculature which is critical during tissue development and repair. This function makes it an important element in maintaining normal physiological processes.
Pathways	CD146 participates in the Wnt/β-catenin and MAPK signaling pathways which are vital in cell proliferation and differentiation. Through the Wnt/β-catenin pathway CD146 interacts with other proteins like Frizzled receptors to regulate gene transcription. In the MAPK pathway it is linked with signaling cascades that involve proteins such as ERK leading to cellular responses necessary for growth and response to external stimuli.
Associated diseases and disorders	CD146 has been implicated in melanoma progression and cardiovascular diseases. Its overexpression in melanoma associates it with increased tumor growth and metastasis often involving interactions with other adhesion molecules like integrins. In cardiovascular diseases CD146 relates to atherosclerosis as its expression on endothelial cells can promote inflammatory responses. Understanding these connections provides insights into potential therapeutic targets for treating these conditions.

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

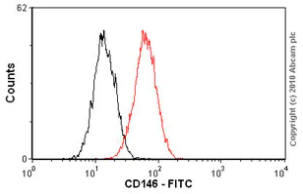
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry - FITC Anti-CD146 antibody [P1H12] (ab78451)

CD146 Flow Cytometry staining using mouse Anti-CD146 antibody

Overlay histogram showing MCF-7 cells stained with ab78451 (red line). The cells were fixed with methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab78451, 2µg/1x10^6 cells) for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 FITC used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a significantly decreased signal in MCF-7 cells fixed with 4% paraformaldehyde (10 min) used under the same conditions.

Please note that Abcam does not have data for use of this antibody on non-fixed cells. We welcome any customer feedback.

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