abcam

ab194319

Alexa Fluor® 647 Anti-VCAM1 antibody [EPR5047]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR5047
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse

Dilution info	1/50
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50
Notes	ab199093 - Rabbit monoclonal IgG (Alexa Fluor®; 647), is suitable for use as an isotype control with this antibody.

Expected

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

IHC-P

Expected

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

Target data

See full target information Vcam1

Function	Cell adhesion glycoprotein predominantly expressed on the surface of endothelial cells that plays an important role in immune surveillance and inflammation. Acts

as a major regulator of leukocyte adhesion to the endothelium through interaction with different types of integrins. During inflammatory responses, binds ligands on the surface of activated endothelial cells to initiate the activation of calcium channels and the plasma membrane-associated small GTPase RAC1 leading to leukocyte transendothelial migration. Also serves as a quality-control checkpoint for entry into bone marrow by providing a 'don't-eat-me' stamping in the context of major histocompatibility complex (MHC) class-I presentation.

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, Store in the dark

Notes

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.

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.

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Supplementary info

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

Activity summary	VCAM1 also known as vascular cell adhesion molecule 1 plays an important role in mediating adhesion and signal transduction. VCAM1 has an approximate molecular mass of 110 kDa. It is expressed on the surface of endothelial cells and can be upregulated by cytokines released during inflammation. The protein serves as a ligand for the integrin VLA-4 also known as α4β1 and contributes to the adhesion of leukocytes to endothelial cells.
Biological function summary	Adhesion molecules like VCAM1 participate in immune response by recruiting leukocytes to sites of inflammation. VCAM1 helps guide immune cells to directed locations where they perform defense activities. Although VCAM1 is not part of any known large protein complex its interaction with integrins facilitates the migration of immune cells across the endothelium and into tissue.
Pathways	VCAM1 contributes significantly to the leukocyte extravasation process in inflammatory pathways. It plays a role in both the cytokine-cytokine receptor interaction pathway and the NF-kB signaling pathway which are essential for immune response and cell signaling. Through these pathways it interacts with proteins like ICAM1 and various chemokines helping to coordinate the immune cell movement through vascular tissue barriers.
Associated diseases and disorders	Abnormal regulation of VCAM1 links to various cardiovascular diseases such as atherosclerosis and inflammatory diseases like rheumatoid arthritis. The protein levels may increase in these conditions promoting excessive immune cell recruitment and tissue damage. VCAM1 also interfaces with other proteins like ICAM1 in these pathological states which together contribute to the progression and severity of these diseases.

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.

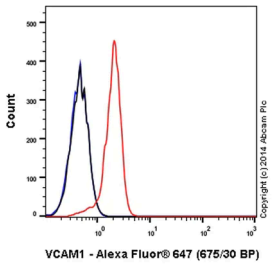
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Full details and terms and conditions can be found here:
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2 product images

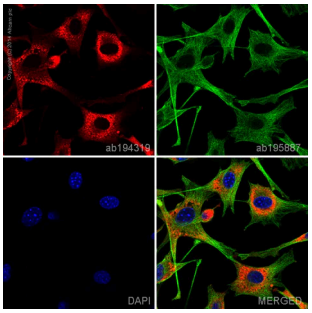


Flow Cytometry (Intracellular) - Alexa Fluor® 647 Anti-VCAM1 antibody [EPR5047] (ab194319)

VCAM1 Flow Cytometry (Intracellular) staining using rabbit Anti-VCAM1 antibody

Overlay histogram showing NIH3T3 cells stained with ab194319 (red line). The cells were fixed with 4% formaldehyde (10 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 (ab194319, 1/50 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 647 used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.
Acquisition of >5,000 events were collected using a solid-state 25mW red diode laser (635 nm) and 675/30 bandpass filter.

This antibody gave a positive signal in NIH3T3 fixed with 80% methanol (5 min) used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-VCAM1 antibody [EPR5047] (ab194319)

VCAM1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-VCAM1 antibody

ab194319 staining VCAM1 in NIH-3T3 cells. The cells were fixed with 4% formaldehyde (10 min), 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 ab194319 at a working dilution of 1 in 50 (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488),at 2µg/ml (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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