abcam

ab103173

APC Anti-VCAM1 antibody [STA]

Anti-VCAM1 antibody [STA] conjugated to APC - suitable for flow cytometry, and reacts with human samples. Clone [STA] is a mouse monoclonal antibody cited in 51 publications.

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

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	APC
Excitation/Emission	Ex: 650nm, Em: 660nm
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing VCAM1 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P19320
Clone number	STA
Purification technique	Size-exclusion chromatography
Purification notes	Conjugates are made from highly purified antibodies (>95% by SDS-PAGE).

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	10 µL for 10^6 Cells
Notes	or 100µl whole blood. ab37391 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

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 (PubMed:31310649). Acts as a major regulator of leukocyte adhesion to the endothelium through interaction with different types of integrins (PubMed:10209034). 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 (PubMed:22970700). 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 (PubMed:35210567).

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	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

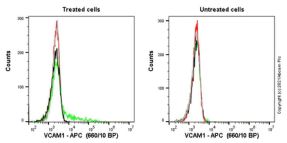
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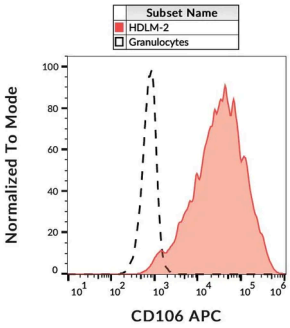


Flow Cytometry - APC Anti-VCAM1 antibody [STA] (ab103173)

VCAM1 Flow Cytometry staining using mouse Anti-VCAM1 antibody

Flow cytometry overlay histogram showing wild-type A549 (green line) and VCAM1 knockout A549 cells (red line, ab273758), treated with 10 ng/ml TNF-alpha (ab259410) for 16 h (left) and untreated (right), stained with ab103173. The cells were incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab103173) ($1x10^6$ in 100µl at 0.2µg/ml) for 30 min at 4°C.
Isotype control antibody mouse IgG1κ Allophycocyanin was used at the same concentration and conditions as the primary antibody (wild-type A549 - black line; VCAM knockout A549 - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5000 events were collected using a 40 mW Red laser (638nm) and 660/10 bandpass filter.



Flow Cytometry - APC Anti-VCAM1 antibody [STA] (ab103173)

VCAM1 Flow Cytometry staining using mouse Anti-VCAM1 antibody

Surface staining of HDLM-2 cells with ab103173.

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