abcam

ab325094

PE Anti-Integrin alpha V beta 3 antibody [LM609]

Anti-Integrin alpha V beta 3 antibody [LM609] conjugated to PE - suitable for flow cytometry, and reacts with human samples. Clone [LM609] is a mouse monoclonal antibody cited in 53 publications.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	LM609
Purification technique	Affinity purification Protein G
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/2500
Notes	-

Target data

See full target information ITGB3

Function

Integrin alpha-V/beta-3 (ITGAV:ITGB3) is a receptor for cytotactin, fibronectin, laminin, matrix metalloproteinase-2, osteopontin, osteomodulin, prothrombin, thrombospondin, vitronectin and von Willebrand factor. Integrin alpha-IIb/beta-3 (ITGA2B:ITGB3) is a receptor for fibronectin, fibrinogen, plasminogen, prothrombin, thrombospondin and vitronectin. Integrins alpha-IIb/beta-3 and alpha-V/beta-3 recognize the sequence R-G-D in a wide array of ligands. Integrin alpha-IIb/beta-3 recognizes the sequence H-H-L-G-G-G-A-K-Q-A-G-D-V in fibrinogen gamma chain (By similarity). Following activation integrin alpha-IIb/beta-3 brings about platelet/platelet interaction through binding of soluble fibrinogen (PubMed:9111081). This step leads to rapid platelet aggregation which physically plugs ruptured endothelial surface. Fibrinogen binding enhances SELP expression in activated platelets (By similarity). ITGAV:ITGB3 binds to fractalkine (CX3CL1) and acts as its coreceptor in CX3CR1-dependent fractalkine signaling (PubMed:23125415, PubMed:24789099). ITGAV:ITGB3 binds to NRG1 (via EGF domain) and this binding is essential for NRG1-ERBB signaling (PubMed:20682778). ITGAV:ITGB3 binds to FGF1 and this binding is essential for FGF1 signaling (PubMed:18441324). ITGAV:ITGB3 binds to FGF2 and this binding is essential for FGF2 signaling (PubMed:28302677). ITGAV:ITGB3 binds to IGF1 and this binding is essential for IGF1 signaling (PubMed:19578119). ITGAV:ITGB3 binds to IGF2 and this binding is essential for IGF2 signaling (PubMed:28873464). ITGAV:ITGB3 binds to IL1B and this binding is essential for IL1B signaling (PubMed:29030430). ITGAV:ITGB3 binds to PLA2G2A via a site (site 2) which is distinct from the classical ligand-binding site (site 1) and this induces integrin conformational changes and enhanced ligand binding to site 1 (PubMed:18635536, PubMed:25398877). ITGAV:ITGB3 acts as a receptor for fibrillin-1 (FBN1) and mediates R-G-D-dependent cell adhesion to FBN1 (PubMed:12807887). In brain, plays a role in synaptic transmission and plasticity. Involved in the regulation of the serotonin neurotransmission, is required to localize to specific compartments within the synapse the serotonin receptor SLC6A4 and for an appropriate reuptake of serotonin. Controls excitatory synaptic strength by regulating GRIA2-containing AMPAR endocytosis, which affects AMPAR abundance and composition (By similarity). ITGAV:ITGB3 act as a receptor for CD40LG (PubMed:31331973). ITGAV:ITGB3 acts as a receptor for IBSP and promotes cell adhesion and migration to IBSP (PubMed:10640428). Integrin ITGA2B:ITGB3 is also the receptor of the erythrocyte-specific ICAM4 ligand involved in heterotypic cell-cell adhesion between erythrocytes and activated platelets (PubMed:12477717). (Microbial infection) Integrin ITGAV:ITGB3 acts as a receptor for Herpes virus 8/HHV-8. (Microbial infection) Integrin ITGAV:ITGB3 acts as a receptor for Coxsackievirus A9. (Microbial infection) Acts as a receptor for Hantaan virus. (Microbial infection) Integrin ITGAV:ITGB3 acts as a receptor for Cytomegalovirus/HHV-5. (Microbial infection) Integrin ITGA5:ITGB3 acts as a receptor for Human metapneumovirus. (Microbial infection) Integrin ITGAV:ITGB3 acts aP05556s a receptor for Human

parechovirus 1. (Microbial infection) Integrin ITGAV:ITGB3 acts as a receptor for West nile virus. (Microbial infection) In case of HIV-1 infection, the interaction with extracellular viral Tat protein seems to enhance angiogenesis in Kaposi's sarcoma lesions.

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	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

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

Supplementary info

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

Activity summary	Integrin alpha V beta 3 also known as integrin αvB3 or avb3 integrin is a transmembrane receptor with a molecular weight of about 140 kDa. This protein is composed of the alpha V (αv) and beta 3 (B3) subunits. Integrin αvB3 is widely expressed in various cell types including endothelial cells osteoclasts and some tumor cells. Its function involves mechanical interaction with the extracellular matrix (ECM) allowing cells to adhere to ECM proteins such as vitronectin and fibronectin. This integrin plays an important role in cell adhesion migration and survival.
Biological function summary	Integrin alpha V beta 3 engages in various cellular processes by serving as a part of integrin complexes. It mediates signal transduction from the ECM to the cell interior influencing cellular responses such as shape changes survival and proliferation. The receptor regulates angiogenesis which is the formation of new blood vessels and osteoclast-mediated bone resorption. These functions are essential for tissue remodeling and repair. The integrin can also modulate immune

	responses by interacting with immune cells affecting inflammation and wound healing processes.
Pathways	Integrin alpha V beta 3 is an important component in signaling pathways such as the PI3K/AKT and MAPK pathways. These pathways facilitate the integrin's role in cell migration growth and survival. It interacts with proteins like focal adhesion kinase (FAK) and SRC kinase bridging signals from the ECM to intracellular signaling cascades. The integrin's ability to bind ligands and initiate these pathways makes it an important player in cellular responses to the extracellular environment influencing how cells align mechanically and biochemically.
Associated diseases and disorders	Integrin alpha V beta 3 has significant associations with cancer progression and osteoporosis. In various cancers including melanoma and breast cancer overexpression of this integrin supports tumor angiogenesis and metastasis connecting its role with angiogenic growth factors and matrix metalloproteinases. In osteoporosis it collaborates with proteins like osteopontin promoting osteoclast attachment to the bone matrix thereby influencing bone degradation. Understanding its role in these disorders highlights potential therapeutic targets for inhibiting unwanted angiogenesis and excessive bone resorption.

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

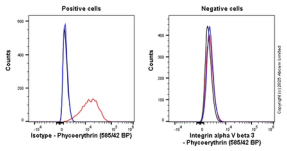
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1 product image



Flow Cytometry - PE Anti-Integrin alpha V beta 3 antibody [LM609] (ab325094)

Integrin alpha V beta 3 Flow Cytometry staining using mouse Anti-Integrin alpha V beta 3 antibody

Flow cytometry overlay histogram showing U-87 positive cells (left) and A549 negative cells (right) stained with ab325094 (red line). The cells were incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab325094) (1x 10^6 cells in 100µl at 0.2 µg/ml (1/2,500)) for 30min on ice.

Rabbit IgG (monoclonal) Phycoerythrin Isotype Control (ab209478) (black line) was used at the same concentration and conditions as the primary antibody (red line). Unlabelled sample was also used as a control (blue line).

Acquisition of > 10,000 events were collected using a 50 mW Yellow/Green laser (561nm) and 585/42 bandpass filter.

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