abcam

ab233249

APC/Cy7® Anti-Integrin beta 3 antibody [VIPL2]

Anti-Integrin beta 3 antibody [VIPL2] conjugated to APC/Cy7® - suitable for flow cytometry, and reacts with human samples. Clone [VIPL2] is a mouse monoclonal antibody cited in 5 publications.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	APC/Cy7®
Excitation/Emission	Ex: 650nm, Em: 785nm
Storage buffer	pH: 7.4 Preservative: 0.0975% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell Peripheral blood mononuclear cells within Human ITGB3. Database link P05106
Clone number	VIPL2
Purification technique	Size-exclusion chromatography
Epitope	extracellular

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	4 µL for 10^6 Cells
Notes	-

Expected

Species	Primates
Dilution info	4 µL for 10^6 Cells
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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Notes

This product or portions thereof is manufactured under license from Carnegie Mellon University under U.S. Patent Number 5, 268, 486 and related patents. Cy® and CyDye® are trademarks of Cytiva.

Supplementary info

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

Activity summary	Integrin beta 3 also known as ITGB3 beta 3 integrin or CD41/CD61 is a cell surface receptor that plays a role in cell adhesion and signal transduction. It is a member of the integrin family characterized by a heterodimer structure formed with an alpha subunit. This integrin has a molecular mass of approximately 88 kDa. Integrin beta 3 is expressed on platelets megakaryocytes and several other cell types such as endothelial cells and certain tumor cells.
Biological function summary	Integrins serve as the mechanical link between the extracellular matrix and the cytoskeleton. Beta 3 integrin forms a complex with different alpha subunits most notably alpha IIb to function as a receptor for fibrinogen fibronectin and vitronectin. This receptor complex is essential for platelet aggregation and normal hemostasis. Dysregulation can lead to altered cellular responses impacting processes like immune response and tumor progression.

Pathways	Integrin beta 3 participates in the signaling of outside-in and inside-out pathways that are fundamental in cellular dynamics. Of particular significance are the integrin-mediated signaling pathways and the TGF-beta signaling pathway which influence cellular proliferation and differentiation. Integrin beta 3 interacts with proteins such as talin and kindlin which are vital for activation and clustering of integrins during cell signaling processes.
Associated diseases and disorders	Altered expression or function of integrin beta 3 is associated with bleeding disorders like Glanzmann's thrombasthenia where platelet aggregation is impaired. Additionally it plays a role in the progression of certain cancers due to its involvement in cell migration and invasion. The interaction of integrin beta 3 with proteins such as VEGF and MMPs is significant in the context of tumor angiogenesis and metastasis.

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

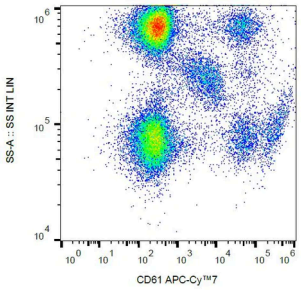
We do not recommend this combination. It is not covered by our product promise.

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.

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1 product image



Flow Cytometry - APC/Cy7® Anti-Integrin beta 3 antibody [VIPL2] (ab233249)

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

Surface staining of human peripheral blood cells with ab233249. Gated on leukocytes including some platelets.

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