abcam

ab212511

Anti-Integrin beta 3 antibody [25E11] - BSA and Azide free

Key facts

Isotype	IgM
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing ITGB3 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P05106
Carrier free	Yes
Clone number	25E11
Purification technique	Affinity purification Protein A/G
Specificity	ab212511 reacts with Human integrin beta3 (GPIIIa, vitronectin receptor beta chain). The protein detectable is a complex of CD41 and CD61. The apparent molecular weight of the integrin beta3 by SDS-PAGE is 105kDa reduced and 90kDa unreduced. Ligands are fibronectin, fibrinogen, von Willebrand factor, vitronectin and thrombospondin. Residues 237-248 of integrin beta3 or CD61 are critical in adhesive protein binding.
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab212511 was purified from Bioreactor Concentrates.

Reactivity data

Flow Cyt

Expected

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

ICC/IF

Expected

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

FuncS (Neut/Block)

Expected

Species	Human
Dilution info	-
Notes	Inhibits platelet aggregation.

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	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

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

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