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Anti-CD61 / Integrin beta-3 / Platelet Glycoprotein IIIa Antibody

Mouse Monoclonal Antibody
Catalog # AH13331

Product Information

Application	IHC-P, IHC-F, IF, FC
Primary Accession	P05106
Other Accession	218040
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Clone Names	Y2/51
Calculated MW	87058

Additional Information

Gene ID	3690
Other Names	BDPLT2; GP3A; GPIIIa; GT; HPA 1; HPA 4; Integrin beta-3; ITGB3; NAIT; Platelet fibrinogen receptor beta subunit; Platelet glycoprotein IIIa; PTP
Application Note	Flow Cytometry (0.5-1ug/million cells in 0.1ml); ,Immunofluorescence (0.5-1ug/ml); ,Immunohistology (Frozen & Formalin-fixed) (1-2ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 10-20 min followed by cooling at RT for 20 minutes) ,Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-CD61 / Integrin beta-3 / Platelet Glycoprotein IIIa Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ITGB3 (HGNC:6156)
Synonyms	GP3A
	Integrin alpha-V/beta-3 (ITGAV:ITGB3) is a receptor for cytotactin,

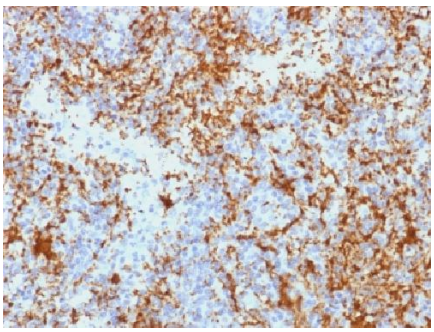
Function	fibronectin, laminin, matrix metalloproteinase-2, osteopontin, osteomodulin, prothrombin, thrombospondin, vitronectin and von Willebrand factor (VWF). Integrin alpha-IIb/beta-3 (ITGA2B:ITGB3) is a receptor for fibronectin, fibrinogen, plasminogen, prothrombin, thrombospondin and vitronectin. 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). ITGAV:ITGB3 acts as a receptor for SNED1 and mediates R-G-D-dependent cell adhesion to SNED1 (PubMed:39713860).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, lamellipodium membrane. Cell junction, focal adhesion. Postsynaptic cell membrane {ECO:0000250|UniProtKB:O54890}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:O54890}. Synapse {ECO:0000250|UniProtKB:O54890}
Tissue Location	Isoform beta-3A and isoform beta-3C are widely expressed. Isoform beta-3A is specifically expressed in osteoblast cells; isoform beta-3C is specifically expressed in prostate and testis

Background

Reacts with human integrin beta3 (GPIIIa, vitronectin receptor beta chain). It associates with the αV-chain (CD51) to form vitronectin receptor, or with the αIIb-chain (CD41) to form the GpIIb/GpIIIa complex (CD41/CD61). The CD41/CD61 complex appears early in megakaryocyte maturation. The activated CD41/CD61 complex is a receptor for von Willebrand factor, soluble fibrinogen, fibronectin, vitronectin and thrombospondin. It plays a central role in platelet activation and aggregation. The CD51/CD61 is implicated in tumor metastasis and adenoviral infection. The antibody detects platelets in smears of blood and bone marrow, as well as megakaryocytes in frozen sections and cell smears. The antibody is useful for

classification of megakaryoblastic leukemia.

Images



Formalin-fixed, paraffin-embedded human Spleen stained with CD61 Monoclonal Antibody (Y2/51).

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