Data Sheet (Cat.No.TMAZ-0034B)

TargetMol

Anti-ITGB1 Monoclonal Antibody-Biotin

Product Details

Ig Type:	Rabbit monoclonal IgG
Reactivity:	Human
Conjugation:	Biotin
Molecular Weight:	150 kDa
Purification:	Protein A Affinity Purified

Applications

Verified Activity:	Flow cytometry analysis of ITGB1 overexpressed 332F cells with TMAZ-0034B, followed by goat anti-rabbit IgG-ABflo 647 (red line). The isotype control is rabbit IgG (black line).
Application:	FCM
Recommended	0.1-0.2 μg/10^6 cells for FCM

Properties

Purity:	> 95% as determined by SDS-PAGE.
Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	ITGB1
Antigen Species:	Human
Gene ID:	3688
Uniprot ID:	P05556
Synonyms:	VLA-4 subunit beta;Fibronectin receptor subunit beta;Integrin beta-1;Glycoprotein IIa
Biology Area:	Immunology Research, Cancer Research

Research Background

Integrins alpha-1/beta-1, alpha-2/beta-1, alpha-10/beta-1 and alpha-11/beta-1 are receptors for collagen. Integrins alpha-1/beta-1 and alpha-2/beta-2 recognize the proline-hydroxylated sequence G-F-P-G-E-R in collagen. Integrins alpha-2/beta-1, alpha-3/beta-1, alpha-4/beta-1, alpha-5/beta-1, alpha-8/beta-1, alpha-10/beta-1, alpha-11/beta-1 and alpha-V/beta-1 are receptors for fibronectin. Alpha-4/beta-1 recognizes one or more domains within the alternatively spliced CS-1 and CS-5 regions of fibronectin. Integrin alpha-5/beta-1 is a receptor for fibrinogen. Integrin alpha-1/beta-1, alpha-2/beta-1, alpha-6/beta-1 and alpha-7/beta-1 are receptors for lamimin. Integrin alpha-6/beta-1 (ITGA6: ITGB1) is present in oocytes and is involved in sperm-egg fusion (By similarity). Integrin alpha-4/beta-1 is a receptor for VCAM1. It recognizes the sequence Q-I-D-S in VCAM1. Integrin alpha-9/beta-1 is a receptor for VCAM1, cytotactin and osteopontin. It recognizes the sequence A-E-I-D-G-I-E-L in cytotactin. Integrin alpha-3/beta-1 is a receptor for epiligrin, thrombospondin and CSPG4. Alpha-3/beta-1 may mediate with LGALS3 the stimulation by CSPG4 of endothelial cells migration. Integrin alpha-V/beta-1 is a receptor for vitronectin. Beta-1 integrins recognize the sequence R-G-D in a wide array of ligands. When associated with

alpha-7 integrin, regulates cell adhesion and laminin matrix deposition. Involved in promoting endothelial cell motility and angiogenesis. Involved in osteoblast compaction through the fibronectin fibrillogenesis cell-mediated matrix assembly process and the formation of mineralized bone nodules. May be involved in up-regulation of the activity of kinases such as PKC via binding to KRT1. Together with KRT1 and RACK1, serves as a platform for SRC activation or inactivation. Plays a mechanistic adhesive role during telophase, required for the successful completion of cytokinesis. Integrin alpha-3/beta-1 provides a docking site for FAP (seprase) at invadopodia plasma membranes in a collagen-dependent manner and hence may participate in the adhesion, formation of invadopodia and matrix degradation processes, promoting cell invasion. ITGA4: ITGB1 binds to fractalkine (CX3CL1) and may act as its coreceptor in CX3CR1-dependent fractalkine signaling (PubMed: 23125415, PubMed: 24789099). ITGA4: ITGB1 and ITGA5: ITGB1 bind 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). ITGA5: ITGB1 acts as a receptor for fibrillin-1 (FBN1) and mediates R-G-D-dependent cell adhesion to FBN1 (PubMed: 12807887, PubMed: 17158881). ITGA5: ITGB1 acts as a receptor for fibronectin FN1 and mediates R-G-D-dependent cell adhesion to FN1 (PubMed: 33962943). ITGA5: ITGB1 is a receptor for IL1B and binding is essential for IL1B signaling (PubMed: 29030430). ITGA5: ITGB3 is a receptor for soluble CD40LG and is required for CD40/CD40LG signaling (PubMed: 31331973). Plays an important role in myoblast differentiation and fusion during skeletal myogenesis (By similarity). ITGA9: ITGB1 may play a crucial role in SVEP1/polydom-mediated myoblast cell adhesion (By similarity). Integrins ITGA9: ITGB1 and ITGA4: ITGB1 repress PRKCA-mediated L-type voltage-gated channel Ca(2+) influx and ROCK-mediated calcium sensitivity in vascular smooth muscle cells via their interaction with SVEP1, thereby inhibit vasocontraction (PubMed: 35802072)|Interferes with isoform 1 resulting in a dominant negative effect on cell adhesion and migration (in vitro)|Isoform 5 displaces isoform 1 in striated muscles|(Microbial infection) Integrin ITGA2: ITGB1 acts as a receptor for Human echoviruses 1 and 8|(Microbial infection) Acts as a receptor for Cytomegalovirus/HHV-5|(Microbial infection) Acts as a receptor for Epstein-Barr virus/HHV-4|(Microbial infection) Integrin ITGA5: ITGB1 acts as a receptor for Human parvovirus B19|(Microbial infection) Integrin ITGA2: ITGB1 acts as a receptor for Human rotavirus|(Microbial infection) Acts as a receptor for Mammalian reovirus|(Microbial infection) In case of HIV-1 infection, integrin ITGA5: ITGB1 binding to extracellular viral Tat protein seems to enhance angiogenesis in Kaposi's sarcoma lesions|(Microbial infection) Interacts with CotH proteins expressed by fungi of the order mucorales, the causative agent of mucormycosis, which plays an important role in epithelial cell invasion by the fungi (PubMed: 32487760). Integrin ITGA3: ITGB1 may act as a receptor for R.delemar CotH7 in alveolar epithelial cells, which may be an early step in pulmonary mucormycosis disease progression (PubMed: 32487760)|(Microbial infection) May serve as a receptor for adhesin A (nadA) of N.meningitidis