

Integrin $\alpha 5$ (JBS5): sc-59762

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. The 16 α and 8 β subunits heterodimerize to produce more than 20 different receptors. Most integrin receptors bind ligands that are components of the extracellular matrix, including Fibronectin, Collagen and Vitronectin. Certain integrins can also bind to soluble ligands such as fibrinogen, or to counterreceptors on adjacent cells such as the intracellular adhesion molecules (ICAMs), leading to aggregation of cells. Ligands serve to cross-link or cluster integrins by binding to adjacent integrin receptors; both receptor clustering and ligand occupancy are necessary for the activation of integrin-mediated responses. In addition to mediating cell adhesion and cytoskeletal organization, integrins function as signaling receptors. Signals transduced by integrins play a role in many biological processes, including cell growth, differentiation, migration and apoptosis.

REFERENCES

- Hynes, R.O. 1992. Integrins: versatility, modulation and signaling in cell adhesion. *Cell* 69: 11-25.
- Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
- Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
- Sheppard, D. 1996. Epithelial integrins. *Bioessays* 18: 655-660.
- Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.
- Orecchia, A., et al. 2003. Vascular endothelial growth factor receptor-1 is deposited in the extracellular matrix by endothelial cells and is a ligand for the $\alpha 5/\beta 1$ Integrin. *J. Cell Sci.* 116: 3479-3489.
- Mould, A.P., et al. 2003. Role of ADMIDAS cation-binding site in ligand recognition by Integrin $\alpha 5/\beta 1$. *J. Biol. Chem.* 278: 51622-51629.

CHROMOSOMAL LOCATION

Genetic locus: ITGA5 (human) mapping to 12q13.13.

SOURCE

Integrin $\alpha 5$ (JBS5) is a mouse monoclonal antibody raised against Jurkat cells of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Integrin $\alpha 5$ (JBS5) is recommended for detection of Integrin $\alpha 5$ of human and canine origin by immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for Integrin $\alpha 5$ siRNA (h): sc-29372, Integrin $\alpha 5$ shRNA Plasmid (h): sc-29372-SH and Integrin $\alpha 5$ shRNA (h) Lentiviral Particles: sc-29372-V.

Molecular Weight of Integrin $\alpha 5$: 150 kDa.

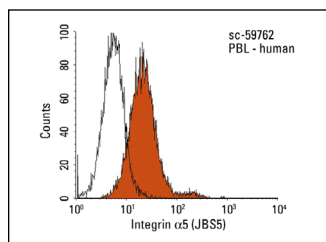
Positive Controls: HeLa whole cell lysate: sc-2200, HeLa + IL-6 cell lysate: sc-24687 or U-937 cell lysate: sc-2239.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



Integrin $\alpha 5$ (JBS5): sc-59762. Indirect FCM analysis of human peripheral blood leukocytes stained with Integrin $\alpha 5$ (JBS5), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.

SELECT PRODUCT CITATIONS

- Kandasamy, K., et al. 2014. Polysulfone membranes coated with polymerized 3,4-dihydroxy-l-phenylalanine are a versatile and cost-effective synthetic substrate for defined long-term cultures of human pluripotent stem cells. *Biomacromolecules* 15: 2067-2078.
- Lee, S.H., et al. 2014. Regulation of ionizing radiation-induced adhesion of breast cancer cells to Fibronectin by $\alpha 5\beta 1$ Integrin. *Radiat. Res.* 181: 650-658.
- Bachsais, M., et al. 2020. CD154 inhibits death of T cells via a *cis* interaction with the $\alpha 5\beta 1$ Integrin. *PLoS ONE* 15: e0235753.

CONJUGATES

See **Integrin $\alpha 5$ (C-9): sc-376199** for Integrin $\alpha 5$ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.