

Integrin α V/ β 5 (P1F6): sc-81632

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 counter receptors 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

1. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. *Cell* 69: 11-25.
2. Miyamoto, S., Akiyama, S.K. and Yamada, K.M. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
3. Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
4. Sheppard, D. 1996. Epithelial integrins. *Bioessays* 18: 655-660.
5. Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.

CHROMOSOMAL LOCATION

Genetic locus: ITGAV (human) mapping to 2q32.1, ITGB5 (human) mapping to 3q21.2; Itgav (mouse) mapping to 2 D, Itgb5 (mouse) mapping to 16 B3.

SOURCE

Integrin α V/ β 5 (P1F6) is a mouse monoclonal antibody raised against UCLA P3 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. Also available azide-free for inhibition, sc-81632 L, 200 μ g/0.1 ml.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Integrin α V/ β 5 (P1F6) is recommended for detection of Integrin α V and Integrin β 5 of mouse, rat and human origin by immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of Integrin α V: 170 kDa.

Molecular Weight of Integrin β 5: 100 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) 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.

SELECT PRODUCT CITATIONS

1. Zamora, A., Gandioso, A., Massaguer, A., Buenestado, S., Calvis, C., Hernández, J.L., Mitjans, F., Rodríguez, V., Ruiz, J. and Marchán, V. 2018. Toward angiogenesis inhibitors based on the conjugation of organometallic platinum(II) complexes to RGD peptides. *ChemMedChem* 13: 1755-1762.
2. Filippi, A., Constantin, A., Alexandru, N., Voicu, G., Constantinescu, C.A., Rebleanu, D., Fenyo, M., Simionescu, D., Simionescu, A., Manduteanu, I. and Georgescu, A. 2020. Integrins $\alpha_4\beta_1$ and $\alpha_v\beta_3$ are reduced in endothelial progenitor cells from diabetic dyslipidemic mice and may represent new targets for therapy in aortic valve disease. *Cell Transplant.* 29: 1-8.
3. Pearson, J.D., Huang, K., Pacal, M., McCurdy, S.R., Lu, S., Aubry, A., Yu, T., Wadosky, K.M., Zhang, L., Wang, T., Gregorieff, A., Ahmad, M., Dimaras, H., Langille, E., Cole, S.P.C., Monnier, P.P., Lok, B.H., Tsao, M.S., et al. 2021. Binary pan-cancer classes with distinct vulnerabilities defined by pro- or anti-cancer YAP/TEAD activity. *Cancer Cell* 39: 1115-1134.e12.
4. Moritz, M.N.O., Casali, B.C., Stotzer, U.S., Karina Dos Santos, P. and Selistre-de-Araujo, H.S. 2022. Alternagin-C, an $\alpha_2\beta_1$ integrin ligand, attenuates collagen-based adhesion, stimulating the metastasis suppressor 1 expression in triple-negative breast tumor cells. *Toxicol* 210: 1-10.

RESEARCH USE

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



See **Integrin α V (P2W7): sc-9969** for Integrin α V antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.