

Integrin $\alpha 5$ (MFR5/5H10): sc-23941

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

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3. Clark, E.A., et al. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
4. Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.
5. Sheppard, D. 1996. Epithelial integrins. *Bioessays* 18: 655-660.
6. 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.
7. 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.
8. Kaabeche, K., et al. 2005. Cbl-mediated ubiquitination of $\alpha 5$ Integrin subunit mediates Fibronectin-dependent osteoblast detachment and apoptosis induced by FGFR2 activation. *J. Cell Sci.* 118: 1223-1232.
9. Kuwada, S.K., et al. 2005. Integrin $\alpha 5/\beta 1$ expression mediates HER-2 downregulation in colon cancer cells. *J. Biol. Chem.* 280: 19027-19035.

CHROMOSOMAL LOCATION

Genetic locus: ITGA5 (human) mapping to 12q13.13; Itga5 (mouse) mapping to 15 F3.

SOURCE

Integrin $\alpha 5$ (MFR5/5H10) is a rat monoclonal antibody raised against activated C57BL/6 mouse spleen cells.

PROTOCOLS

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

PRODUCT

Each vial contains 200 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin $\alpha 5$ (MFR5/5H10) is available conjugated to either phycoerythrin (sc-23941 PE) or fluorescein (sc-23941 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

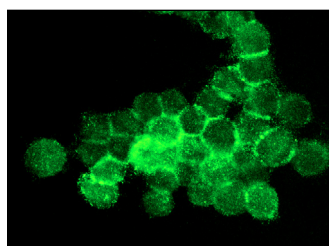
APPLICATIONS

Integrin $\alpha 5$ (MFR5/5H10) is recommended for detection of Integrin $\alpha 5$ of mouse, rat and human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

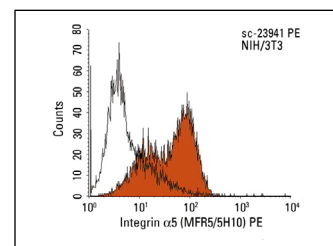
Suitable for use as control antibody for Integrin $\alpha 5$ siRNA (h): sc-29372, Integrin $\alpha 5$ siRNA (m): sc-35687, Integrin $\alpha 5$ shRNA Plasmid (h): sc-29372-SH, Integrin $\alpha 5$ shRNA Plasmid (m): sc-35687-SH, Integrin $\alpha 5$ shRNA (h) Lentiviral Particles: sc-29372-V and Integrin $\alpha 5$ shRNA (m) Lentiviral Particles: sc-35687-V.

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

DATA



Integrin $\alpha 5$ (MFR5/5H10): sc-23941. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization.



Integrin $\alpha 5$ (MFR5/5H10) PE: sc-23941 PE. FCM analysis of IL-6 stimulated NIH/3T3 cells. Black line histogram represents the isotype control, normal rat IgG_{2a}-PE: sc-2872.

SELECT PRODUCT CITATIONS

1. Isaji, T., et al. 2009. N-glycosylation of the I-like domain of $\beta 1$ Integrin is essential for $\beta 1$ Integrin expression and biological function: Identification of the minimal N-glycosylation requirement for $\alpha 5\beta 1$. *J. Biol. Chem.* 284: 12207-12216.

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.