

Integrin $\alpha 2$ (P1H5): sc-13546

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. Integrin $\alpha 2$ is responsible for adhesion of platelets and other cells to collagens. Modulation of collagen and collagenase gene expression force generation and organization of newly synthesized extracellular matrix.

REFERENCES

1. Takada, Y., et al. 1989. The primary structure of the VLA-2/collagen receptor $\alpha 2$ subunit (platelet GPIa): homology to other integrins and the presence of a possible collagen-binding domain. *J. Cell Biol.* 109: 397-407.
2. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. *Cell* 69: 11-25.

CHROMOSOMAL LOCATION

Genetic locus: ITGA2 (human) mapping to 5q11.2, ITGB1 (human) mapping to 10p11.22.

SOURCE

Integrin $\alpha 2$ (P1H5) is a mouse monoclonal antibody raised against HT1080 fibrosarcoma cells.

PRODUCT

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

Integrin $\alpha 2$ (P1H5) is available conjugated to either phycoerythrin (sc-13546 PE) or fluorescein (sc-13546 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

Integrin $\alpha 2$ (P1H5) is recommended for detection of Integrin $\alpha 2$ and the Integrin $\alpha 2/\beta 1$ complex of human 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 1×10^6 cells).

Molecular Weight of Integrin $\alpha 2$: 150 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, CCRF-CEM cell lysate: sc-2225 or HeLa whole cell lysate: sc-2200.

STORAGE

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

SELECT PRODUCT CITATIONS

1. Lang, K., et al. 2004. Induction of a metastatogenic tumor cell type by neurotransmitters and its pharmacological inhibition by established drugs. *Int. J. Cancer* 112: 231-238.
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11. Vuoriluoto, K., et al. 2011. Syndecan-1 and -4 differentially regulate oncogenic K-ras dependent cell invasion into collagen through $\alpha 2\beta 1$ integrin and MT1-MMP. *Matrix Biol.* 30: 207-217.
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14. Moura, C.E.B., et al. 2019. Effect of plasma-nitrided titanium surfaces on the differentiation of pre-osteoblastic cells. *Artif. Organs* 43: 764-772.
15. Baltes, F., et al. 2020. $\beta 1$ -integrin binding to collagen type 1 transmits breast cancer cells into chemoresistance by activating ABC efflux transporters. *Biochim. Biophys. Acta Mol. Cell Res.* 1867: 118663.

RESEARCH USE

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