

# Integrin $\beta 2$ (IB4): sc-65254

## BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane  $\alpha$  and  $\beta$  subunits. The 16  $\alpha$  and 8  $\beta$  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

1. Hynes, R.O. 1992. Integrins: versatility, modulation and signaling in cell adhesion. *Cell* 69: 11-25.
2. Miyamoto, S., et al. 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. 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: ITGB2 (human) mapping to 21q22.3.

## SOURCE

Integrin  $\beta 2$  (IB4) is a mouse monoclonal antibody raised against peripheral blood monocytes of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin  $\beta 2$  (IB4) is available conjugated to phycoerythrin (sc-65254 PE), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

Integrin  $\beta 2$  (IB4) is recommended for detection of Integrin  $\beta 2$  of human origin by immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

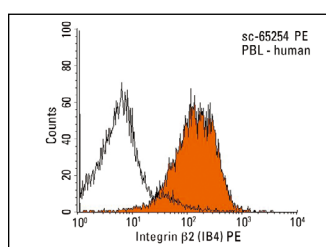
Suitable for use as control antibody for Integrin  $\beta 2$  siRNA (h): sc-29374, Integrin  $\beta 2$  shRNA Plasmid (h): sc-29374-SH and Integrin  $\beta 2$  shRNA (h) Lentiviral Particles: sc-29374-V.

Molecular Weight of Integrin  $\beta 2$ : 95 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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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  $\beta 2$  (IB4): sc-65254. Indirect FCM analysis of human peripheral blood leukocytes stained with Integrin  $\beta 2$  (IB4), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG<sub>2a</sub>: sc-3878.

## SELECT PRODUCT CITATIONS

1. Dixit, N., et al. 2011. Migrational guidance of neutrophils is mechanotransduced via high-affinity LFA-1 and calcium flux. *J. Immunol.* 187: 472-481.
2. Teimourian, S., et al. 2017. Mutation characterization and heterodimer analysis of patients with leukocyte adhesion deficiency: including one novel mutation. *Immunol. Lett.* 187: 7-13.
3. Fonseca, Z., et al. 2018. *Entamoeba histolytica* induce signaling via Raf/MEK/ERK for neutrophil extracellular trap (NET) formation. *Front. Cell. Infect. Microbiol.* 8: 226.
4. Li, Q., et al. 2018. Int6/elf3e silencing promotes placenta angiogenesis in a rat model of pre-eclampsia. *Sci. Rep.* 8: 8944.
5. Ren, X., et al. 2021. Linking cortical astrocytic neogenin deficiency to the development of Moyamoya disease-like vasculopathy. *Neurobiol. Dis.* 154: 105339.
6. Morikis, V.A., et al. 2022.  $\beta 2$ -Integrin adhesive bond tension under shear stress modulates cytosolic calcium flux and neutrophil inflammatory response. *Cells* 11: 2822.
7. Lantermans, H.C., et al. 2024. The dual HCK/BTK inhibitor KIN-8194 impairs growth and integrin-mediated adhesion of BTKi-resistant mantle cell lymphoma. *Leukemia* 38: 1570-1580.

## 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.