

# Integrin $\beta 7$ (LS722): sc-53545

## 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., 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: ITGB7 (human) mapping to 12q13.13; Itgb7 (mouse) mapping to 15 F3.

## SOURCE

Integrin  $\beta 7$  (LS722) is a rat monoclonal antibody raised against mesenteric lymphocytes and TK-1 cells of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for inducing aggregation via an  $\alpha 4\beta 7$  pathway, sc-53545 L, 200  $\mu$ g/0.1 ml.

Integrin  $\beta 7$  (LS722) is available conjugated to either phycoerythrin (sc-53545 PE) or fluorescein (sc-53545 FITC), 200  $\mu$ g/ml, for IF, IHC(P) and FCM.

## 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  $\beta 7$  (LS722) is recommended for detection of Integrin  $\beta 7$  of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and flow cytometry (1  $\mu$ g per  $1 \times 10^6$  cells).

Suitable for use as control antibody for Integrin  $\beta 7$  siRNA (m): sc-37260, Integrin  $\beta 7$  shRNA Plasmid (m): sc-37260-SH and Integrin  $\beta 7$  shRNA (m) Lentiviral Particles: sc-37260-V.

Molecular Weight of Integrin  $\beta 7$ : 140 kDa.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.