

# Integrin $\alpha$ L (Y-17): sc-6611

## 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

- Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. *Cell* 69: 11-25.
- Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in Integrin transmembrane function. *Science* 267: 883-885.
- Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
- Sheppard, D. 1996. Epithelial Integrins. *Bioessays* 18: 655-660.
- Juliano, R. 1996. Cooperation between soluble factors and Integrin-mediated cell anchorage in the control of cell growth and differentiation. *BioEssays* 18: 911-917.
- Rose, D.M., et al. 2003. Paxillin binding to the  $\alpha$ 4 Integrin subunit stimulates LFA-1 (Integrin  $\alpha$ L $\beta$ 2)-dependent T cell migration by augmenting the activation of focal adhesion kinase/proline-rich tyrosine kinase-2. *J. Immunol.* 170: 5912-5918.
- Tng, E., et al. 2004. The Integrin  $\alpha$ L $\beta$ 2 hybrid domain serves as a link for the propagation of activation signal from its stalk regions to the I-like domain. *J. Biol. Chem.* 279: 54334-54339.
- Kim, M., et al. 2004. The primacy of affinity over clustering in regulation of adhesiveness of the Integrin  $\alpha$ L $\beta$ 2. *J. Cell Biol.* 167: 1241-1253.

## CHROMOSOMAL LOCATION

Genetic locus: Itgal (mouse) mapping to 7 F3.

## SOURCE

Integrin  $\alpha$ L (Y-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Integrin  $\alpha$ L 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.

Blocking peptide available for competition studies, sc-6611 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Integrin  $\alpha$ L (Y-17) is recommended for detection of Integrin  $\alpha$ L of mouse and rat 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Integrin  $\alpha$ L siRNA (m): sc-35692, Integrin  $\alpha$ L shRNA Plasmid (m): sc-35692-SH and Integrin  $\alpha$ L shRNA (m) Lentiviral Particles: sc-35692-V.

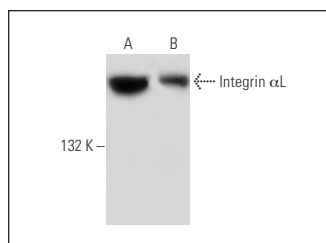
Molecular Weight of Integrin  $\alpha$ L: 180 kDa.

Positive Controls: mouse thymus extract: sc-2406, TK-1 whole cell lysate: sc-364798 or BYDP whole cell lysate: sc-364368.

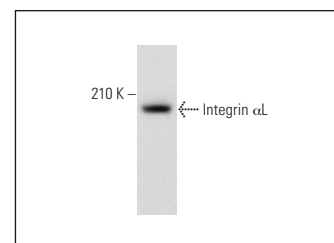
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Integrin  $\alpha$ L (Y-17): sc-6611. Western blot analysis of Integrin  $\alpha$ L expression in BYDP (A) and TK-1 (B) whole cell lysates.



Integrin  $\alpha$ L (Y-17): sc-6611. Western blot analysis of Integrin  $\alpha$ L expression in mouse thymus tissue extract.

## SELECT PRODUCT CITATIONS

- Watson, A.R., et al. 2004. Differences in signaling molecule organization between naive and memory CD4<sup>+</sup> T lymphocytes. *J. Immunol.* 173: 33-41.

## 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.