

# Integrin $\alpha$ E (R-15): sc-6607

## 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.
- Hadley, G.A., et al. 1997. The epithelial cell-specific Integrin, CD103 ( $\alpha$ E Integrin), defines a novel subset of alloreactive CD8<sup>+</sup> CTL. *J. Immunol.* 159: 3748-3756.
- Schon, M.P., et al. 1999. Mucosal T lymphocyte numbers are selectively reduced in Integrin  $\alpha$ E (CD103)-deficient mice. *J. Immunol.* 162: 6641-6649.
- Strauch, U.G., et al. 2001. Integrin  $\alpha$ E(CD103) $\beta$ 7 mediates adhesion to intestinal microvascular endothelial cell lines via an E-cadherin-independent interaction. *J. Immunol.* 166: 3506-3514.
- Corps, E., et al. 2001. Recognition of E-cadherin by Integrin  $\alpha$ E $\beta$ 7: requirement for cadherin dimerization and implications for cadherin and Integrin function. *J. Biol. Chem.* 276: 30862-30870.

## CHROMOSOMAL LOCATION

Genetic locus: ITGAE (human) mapping to 17p13.2; Itgae (mouse) mapping to 11 B4.

## SOURCE

Integrin  $\alpha$ E (R-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Integrin  $\alpha$ E of human origin.

## RESEARCH USE

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

## 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-6607 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Integrin  $\alpha$ E (R-15) is recommended for detection of Integrin  $\alpha$ E heavy chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Integrin  $\alpha$ E (R-15) is also recommended for detection of Integrin  $\alpha$ E heavy chain in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Integrin  $\alpha$ E siRNA (h): sc-35690, Integrin  $\alpha$ E siRNA (m): sc-43132, Integrin  $\alpha$ E shRNA Plasmid (h): sc-35690-SH, Integrin  $\alpha$ E shRNA Plasmid (m): sc-43132-SH, Integrin  $\alpha$ E shRNA (h) Lentiviral Particles: sc-35690-V and Integrin  $\alpha$ E shRNA (m) Lentiviral Particles: sc-43132-V.

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

Positive Controls: A-431 whole cell lysate: sc-2201, SK-N-MC cell lysate: sc-2237 or CCRF-CEM cell lysate: sc-2225.

## 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) 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<sup>™</sup> Mounting Medium: sc-24941.

## STORAGE

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

## PROTOCOLS

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



Try **Integrin  $\alpha$ E (Ber-ACT8): sc-19981**, our highly recommended monoclonal alternative to Integrin  $\alpha$ E (R-15).