# Integrin αE (Ber-ACT8): sc-19981



The Power to Question

#### **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 integrinmediated 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. Cerf-Bensussan, N., et al. 1992. The human intraepithelial lymphocyte marker HML-1 is an integrin consisting of a  $\beta$ 7 subunit associated with a distinctive  $\alpha$  chain. Eur. J. Immunol. 22: 273-277.
- Lefrançois, L. 1992. Extrathymic differentiation of intraepithelial lymphocytes: generation of a separate and unequal T cell repertoire? Immunol. Today 12: 436-438.
- Roberts, K. and Kilshaw, P.J. 1993. The mucosal T cell Integrin a M290 β7 recognizes a epithelial cell lines. Eur. J. Immunol. 23: 1630-1635.
- 4. Lefrançois, L., et al. 1994. Developmental expression of the  $\alpha$  IEL  $\beta$ 7 integrin on T cell receptor  $\gamma\delta$  and T cell receptor  $\alpha\beta$  T cells. Eur. J. Immunol. 24: 635-640.
- 5. Reimann, J. and Rudolphi, A. 1995. Co-expression of CD8 $\alpha$  in CD4+ T cell receptor  $\alpha\beta$ + T cells migrating into the murine small intestine epithelial layer. Eur. J. Immunol. 25: 1580-1588.
- 6. Hadley, G.A., et al. 1997. The epithelial cell-specific Integrin, CD103 ( $\alpha$ E integrin), defines a novel subset of alloreactive CD8+ CTL. J. Immunol. 159: 3748-3756.
- 7. Schön, 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 αE(CD103)β7 mediates adhesion to intestinal microvascular endothelial cell lines via an E-cadherin-independent interaction. J. Immunol. 166: 3506-3514.
- 9. 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.

#### **SOURCE**

Integrin  $\alpha E$  (Ber-ACT8) is a mouse monoclonal antibody raised against HTLV-1+ MAPS-16 cell line.

#### **PRODUCT**

Each vial contains 200  $\mu g \ lgG_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin  $\alpha E$  (Ber-ACT8) is available conjugated to agarose (sc-19981 AC), 500  $\mu g/0.25$  ml agarose in 1 ml, for IP; to HRP (sc-19981 HRP), 200  $\mu g/ml$ , for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19981 PE), fluorescein (sc-19981 FITC), Alexa Fluor® 488 (sc-19981 AF488), Alexa Fluor® 546 (sc-19981 AF546), Alexa Fluor® 594 (sc-19981 AF594) or Alexa Fluor® 647 (sc-19981 AF647), 200  $\mu g/ml$ , for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19981 AF680) or Alexa Fluor® 790 (sc-19981 AF790), 200  $\mu g/ml$ , for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

#### **APPLICATIONS**

Integrin  $\alpha E$  (Ber-ACT8) is recommended for detection of Integrin  $\alpha E$  of human origin by 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).

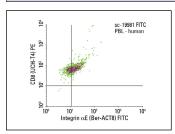
Suitable for use as control antibody for Integrin  $\alpha$ E siRNA (h): sc-35690, Integrin  $\alpha$ E shRNA Plasmid (h): sc-35690-SH and Integrin  $\alpha$ E shRNA (h) Lentiviral Particles: sc-35690-V.

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

## **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: Immunofluorescence: use m-lgG $\kappa$  BP-FITC: sc-516140 or m-lgG $\kappa$  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  $\alpha E$  (Ber-ACT8) FITC: sc-19981 FITC. FCM analysis of human peripheral blood leukocytes stained with Integrin  $\alpha E$  (Ber-ACT8) FITC and CD8 (UCH-T4) PE: sc-181 PE. Quadrant markers were set based on the isotype controls, normal mouse  $lgG_1$ -FITC: sc-2855 and  $lgG_1$ -PE: sc-2866

#### **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.