



## CELL LAB Rat Anti-Mouse CD34

<u>Cat. No.</u>	<u>Form</u>	<u>Quantity</u>
732343	Purified (UNLB) Antibody	0.5 mg
732344	Fluorescein (FITC) Conjugate	0.5 mg
732345	Biotin (BIOT) Conjugate	0.5 mg

### For Laboratory Use Only

#### DESCRIPTION

**Clone:** CBR-E8  
**Isotype:** Rat (Lewis) IgM $\kappa$   
**Immunogen:** Recombinant mCD34-GST fusion protein  
**Specificity:** Extracellular epitope of murine CD34

CD34 is a mucin-like cell surface glycoprotein.<sup>1-3</sup> It is expressed on hematopoietic stem cells (HSC) and endothelial cells of the embryo and adult. HSCs express a large variety of growth and differentiation factors, yet they remain undifferentiated and capable of extensive self-renewal. Cells of the CD34<sup>hi</sup>Sca<sup>hi</sup> phenotype possess a unique protein tyrosine phosphatase, which has been proposed to mediate maintenance of the undifferentiated state.<sup>4</sup> While CD34 has previously been exploited essentially as a marker, it has recently been found to have a distinct biological role as a regulator of hematopoietic cell adhesion. More specifically, CD34 promotes adhesion to stromal cells and thus is thought to compartmentalize cells in the bone marrow microenvironment.<sup>2</sup> Monoclonal antibody CBR-E8 exhibits strong reactivity with 3T3 fibroblasts, stromal cell lines from fetal liver, bone marrow hematopoietic progenitors and the endothelial cell line D10. Furthermore, immunostaining of frozen sections from embryonic and adult tissues revealed a strong reactivity against vascular endothelial cells at different stages of development, including sinusoidal cells in the fetal liver, yolk sac, and in the fetal bone marrow.<sup>5</sup>

#### APPLICATIONS

- Immunohistochemistry (paraffin and frozen sections)<sup>5</sup>
- Immunofluorescence staining of progenitor- and stem cell-enriched bone marrow (cytocentrifuge preps)<sup>5</sup>
- Western blotting<sup>5</sup>

#### CHARACTERIZATION

To ensure lot-to-lot consistency, each batch of product is tested to conform with characteristics of a standard reference reagent using immunohistochemistry.

#### WORKING DILUTIONS

**Immunohistochemistry:** Purified antibody  $\leq 2$   $\mu\text{g/mL}$   
FITC conjugate  $\leq 2$   $\mu\text{g/mL}$   
BIOT conjugate  $\leq 2$   $\mu\text{g/mL}$

**Other Applications:** Since applications vary, determine the optimum working dilution of the product that is appropriate for your specific needs.

## HANDLING AND STORAGE

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of 100 mM borate buffered saline, pH 8.0. No preservatives or amine-containing buffer salts added.
- The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN<sub>3</sub>.
- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN<sub>3</sub>.
- Protect fluorochrome-conjugated forms from light. Do not freeze.
- Reagent is stable until the expiration date on the vial when stored at 2-8°C.

## STATEMENT OF WARNINGS

1. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
2. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
3. Do not use reagent beyond the expiration date on the vial label.
4. Minimize exposure of reagent to light during storage or incubation.
5. Avoid microbial contamination of reagent or erroneous results may occur.
6. Use Good Laboratory Practice (GLP) when handling this reagent.
7. Harmful if swallowed.
8. After contact with skin, wash immediately with plenty of water.
9. Contains sodium azide. Sodium azide under acidic conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, immediately wash excessively with water.

## TRADEMARKS

The Beckman Coulter logo is a trademark of Beckman Coulter, Inc.

For additional information or if damaged product is received, contact your local Beckman Coulter Representative.

## REFERENCES

1. Fennie C, et al. 1995. CD34+ endothelial cell lines derived from murine yolk sac induce the proliferation and differentiation of yolk sac CD34+ hematopoietic progenitors. *Blood*, 86:4454-4467.
2. Healy L, et al. 1995. The stem cell antigen CD34 functions as a regulator of hemopoietic cell adhesion. *PNAS*, 92:12240-12244.
3. Osawa M, et al. 1996. Long-term lymphohematopoietic reconstitution by a single CD34-low/negative hematopoietic stem cell. *Science*, 273:242-245.
4. Cheng J, et al. 1996. A novel protein tyrosine phosphatase expressed in lin(lo)CD34(hi)Sca(hi) hematopoietic progenitor cells. *Blood*, 88:1156-1167.
5. Lin G, et al. 1995. Expression of CD34 in endothelial cells, hematopoietic progenitors and nervous cells in fetal and adult mouse tissues. *Eur J Immunol*, 25:1508-1516.



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