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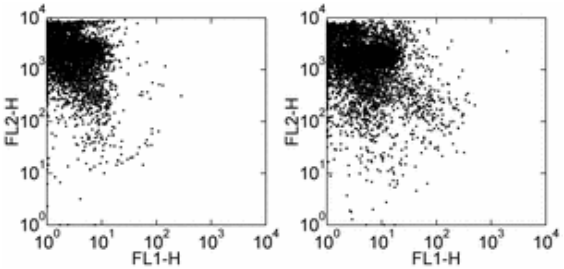
Anti-Mouse CD34 FITC

Catalog Number: 11-0341
RUO: For Research Use Only



Staining of C57BL/6 bone marrow cells with Anti-Mouse Hematopoietic Lineage Biotin Panel (cat. 88-7774) followed by Streptavidin PE (cat. 12-4317) and 0.5 µg of Rat IgG2a κ Isotype Control FITC (cat. 11-4321) (left) or 0.5 µg of Anti-Mouse CD34 FITC (right). Total viable cells were used for analysis.

Product Information

Contents: Anti-Mouse CD34 FITC
REF Catalog Number: 11-0341
Clone: RAM34
Concentration: 0.5 mg/mL
Host/Isotype: Rat IgG2a, κ

Formulation: aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer
Temperature Limitation: Store at 2-8°C. Do not freeze. Light sensitive material.
LOT Batch Code: Refer to Vial
Use By: Refer to Vial

Description

The RAM34 monoclonal antibody reacts with mouse CD34, also known as mucosialin. It has been reported that the RAM34 antibody can be used to detect CD34+Sca-1+c-Kit+ cells. CD34 is a highly glycosylated (approximately 90-120 kDa) member of the sialomucin family and is expressed by capillary endothelial cells, bone marrow stroma, and a small subpopulation of mouse bone marrow cells. RAM34 has been used to purify mouse hematopoietic stem cells (HSC) to near homogeneity. CD34 expressed on endothelial cells is a ligand for CD62L and plays a role in adhesion. Simultaneous staining of mouse bone marrow cells with a cocktail of antibodies to lineage markers (CD3, CD11b, Ly6G, TER-119 and CD45R/B220) reveals a subset of cells that stain with the RAM34 antibody and express undetectable to low levels of the indicated lineage markers.

Applications Reported

This RAM34 antibody has been reported for use in flow cytometric analysis.

Applications Tested

This RAM34 antibody has been tested by flow cytometric analysis of mouse bone marrow cell suspensions. This can be used at less than or equal to 1.0 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

Note: When staining with the RAM34 antibody an incubation time of 90 minutes is recommended to obtain the optimal signal to noise ratio.

When using direct conjugates of RAM34 to stain mouse bone marrow cells, we routinely perform two-color analysis using RAM34 in combination with a Lineage Cocktail (cat. 88-7772 or cat. 88-7774) to identify lineage-committed bone marrow cells and to better visualize the minor subset of lineage negative/low cells that stain with RAM34 as reported in the literature. Gating strategies that exclude cells with low level expression of lineage markers may significantly decrease the total number of RAM34-positive cells. If using a Lineage Cocktail and/or other markers such as CD117/c-Kit or Ly6AE/Sca-1, it is best to analyze data with two-parameter plots (dot-plots or contour-plots, etc.) for best visualization of the CD34+ population. If you are using only one-color staining, it is recommended to analyze data as a two-parameter plot of RAM34 staining vs. Forward Light Scatter (FSC). Collecting and analyzing >10,000 total events per sample is helpful in increasing the number of RAM34-positive cells. For more detailed information on staining with RAM34, please refer to the following publication PubMed.

References

Palazuelos J, Davoust N, Julien B, Hatterer E, Aguado T, Mechoulam R, Benito C, Romero J, Silva A, Guzmán M, Nataf S, Galve-Roperh I. The CB(2) cannabinoid receptor controls myeloid progenitor trafficking: involvement in the pathogenesis of an animal model of multiple sclerosis. J Biol Chem. 2008 May 9;283(19):13320-9. (RAM34, IHC frozen, PubMed)

Singh P, Yao Y, Weliver A, Broxmeyer HE, Hong SC, Chang CH. Vaccinia virus infection modulates the hematopoietic cell compartments in the bone marrow. Stem Cells.2008 Apr;26(4):1009-16. (RAM34, FC, PubMed)

Lorenz K, Grashoff C, Torka R, Sakai T, Langbein L, Bloch W, Aumailley M, Fässler R. Integrin-linked kinase is required for epidermal and hair follicle morphogenesis. J Cell Biol. 2007 May 7;177(3):501-13 (RAM34, IHC, PubMed)

Iida M, Ihara S, Matsuzaki T. Hair cycle-dependent changes of alkaline phosphatase activity in the mesenchyme and epithelium in mouse vibrissal follicles. Dev Growth Differ. 2007 Apr;49(3):185-95. (RAM34, IHC frozen, PubMed)

Park TJ, Boyd K, Curran T. Cardiovascular and craniofacial defects in Crk-null mice. Mol Cell Biol. 2006 Aug;26(16):6272-82. (RAM34, IHC paraffin)

Osawa M, Hanada K, Hamada H, Nakauchi H. Long-term lymphohematopoietic reconstitution by a single CD34-low/negative hematopoietic stem cell. Science. 1996 Jul 12;273(5272):242-5.

Related Products

11-4321 Rat IgG2a K Isotype Control FITC

88-7772 Mouse Hematopoietic Lineage eFluor® 450 Cocktail (17A2, RA3-6B2, M1/70, TER-119, RB6-8C5)

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