

Biotin anti-mouse CD34 Antibody

Catalog# / Size	119303 / 50 µg 119304 / 500 µg
Clone	MEC14.7
Regulatory Status	RUO
Other Names	Mucosialin
Isotype	Rat IgG2a, κ
Description	CD34 is a highly glycosylated hematopoietic progenitor antigen. Two isoforms of CD34 have been reported to be generated by alternative splicing. This antigen is expressed on hematopoietic progenitors as well as on endothelial cells, brain, and testis. CD34 is thought to function as an adhesion molecule for early hematopoietic progenitors mediating the attachment of stem cells to extracellular matrix or stromal cells. CD34 is phosphorylated on serine residues by PKC.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Cells transfected with mouse CD34
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography, and conjugated with biotin under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. Do not freeze.
Application	FC - Quality tested IHC-F - Verified
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is ≤1.0 µg per million cells in 100 µl volume. For immunohistochemistry, a concentration range of 5.0 - 10 µg/ml is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	The MEC14.7 antibody does not stain bone marrow cells like some other mouse CD34 antibodies, probably because the antibody recognizes a different epitope from other mAbs. Additional reported applications (for the relevant formats) include: immunoprecipitation, Western blotting ⁶ , and immunohistochemistry of acetone-fixed frozen sections and paraffin-embedded sections ^{2,4,5,6} .
Application References	<ol style="list-style-type: none">1. Garlanda C, <i>et al.</i> 1997. <i>Eur. J. Cell Biol.</i> 73:368. (FC)2. Knowles HJ, <i>et al.</i> 2004. <i>Circ. Res.</i> 95:162. (IHC)3. Trempus CS, <i>et al.</i> 2003. <i>J. Invest. Dermatol.</i> 120:501.4. Winding B, <i>et al.</i> 2002. <i>Clin. Cancer Res.</i> 8:1932. (IHC)5. Voswinkel R, <i>et al.</i> 2003. <i>Circ. Res.</i> 93:372. (IHC)6. Kairaitis LK, <i>et al.</i> 2005. <i>Am. J. Physiol. Renal. Physiol.</i> 288:F198. (IHC, WB)7. Ao A, <i>et al.</i> 2008. <i>P. Natl. Acad. Sci. USA</i> 105:7821. PubMed8. Zaynagetdinov R., <i>et al.</i> 2011. <i>J Immunol.</i> 187:5703. PubMed.
Product Citations	<ol style="list-style-type: none">1. Xie T, <i>et al.</i> 2021. <i>Sci Adv.</i> 7: . PubMed2. Jones L, <i>et al.</i> 2010. <i>J Exp Med.</i> 207:2581. PubMed3. Booker CN, <i>et al.</i> 2021. <i>NPJ Microgravity.</i> 7:49. PubMed4. Henderson M, <i>et al.</i> 2017. <i>Environ Health Perspect.</i> 10.1289/EHP1878. PubMed5. Sakurai H, <i>et al.</i> 2008. <i>Stem Cells.</i> 26:1865. PubMed

RRID AB_345281 (BioLegend Cat. No. 119303)
AB_345282 (BioLegend Cat. No. 119304)

Antigen Details

Structure	Type I membrane protein, 75-120 kD, highly glycosylated; two isoforms reported
Distribution	Hematopoietic progenitors, brain, testis, endothelial cells; low expression in thymus, spleen, and bone marrow
Function	Possible adhesion molecule thought to function in early hematopoiesis by mediating attachment of stem cells to bone marrow extracellular matrix or stromal cells. Presents carbohydrate ligands to selectins.
Ligand/Receptor	L-selectin, other selectins
Cell Type	Endothelial cells, Hematopoietic stem and progenitors
Biology Area	Cell Biology, Immunology, Neuroinflammation, Neuroscience
Molecular Family	Adhesion Molecules, CD Molecules
Antigen References	1. Garlanda C, <i>et al.</i> 1997. <i>Eur. J. Cell Biol.</i> 73:368. 2. Brown J, <i>et al.</i> 1991. <i>Int. Immunol.</i> 3:175. 3. Suda J, <i>et al.</i> 1992. <i>Blood</i> 79:2288. 4. Baumhueter S, <i>et al.</i> 1994. <i>Blood</i> 84:2554.
Gene ID	12490

Related Protocols

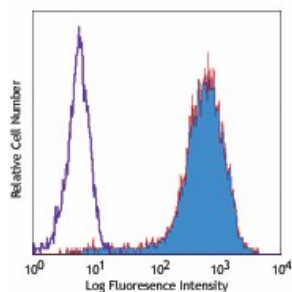
[Immunohistochemistry Protocol for Frozen Sections](#)

[Cell Surface Flow Cytometry Staining Protocol](#)

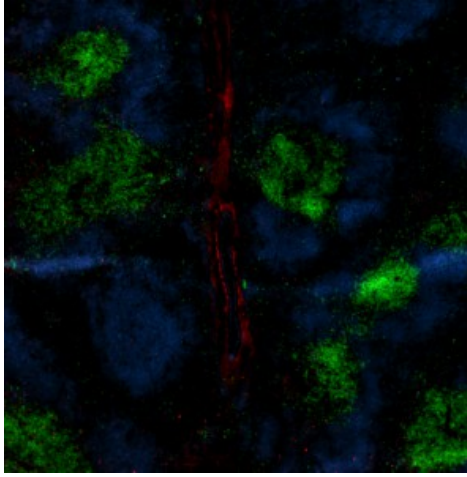
Other Formats

Purified anti-mouse CD34, Biotin anti-mouse CD34, PE anti-mouse CD34, Alexa Fluor® 647 anti-mouse CD34, PE/Cyanine5 anti-mouse CD34, APC anti-mouse CD34, Brilliant Violet 421™ anti-mouse CD34, PE/Cyanine7 anti-mouse CD34, PerCP/Cyanine5.5 anti-mouse CD34, PE/Dazzle™ 594 anti-mouse CD34

Product Data



Mouse NIH/3T3 cell line stained with biotinylated MEC14.7, followed by Sav-PE



C57BL/6 mouse frozen spleen section was fixed with 4% paraformaldehyde (PFA) for 10 minutes at room temperature and blocked with 5% FBS for 30 minutes at room temperature. Then the section was stained with 10 $\mu\text{g}/\text{ml}$ of anti-mouse CD34 (clone MEC14.7) Biotin, anti-mouse CD3 (clone 17A2) Alexa Fluor® 647 (green) and anti-mouse B220 (clone RA3-6B2) Alexa Fluor® 488 (blue) overnight at 4°C, followed by 2.5 $\mu\text{g}/\text{mL}$ of Alexa Fluor® 594 Streptavidin (red) for two hours at room temperature. The image was captured by 10X objective.

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