

Purified anti-mouse CD146 Antibody

Catalog# / Size	134701 / 50 µg 134702 / 200 µg
Clone	ME-9F1
Regulatory Status	RUO
Other Names	S-Endo 1 antigen, MUC18, MCAM, Mel-CAM, A32 antigen
Isotype	Rat IgG2a, κ
Description	CD146, also known as melanoma cell adhesion molecule (MCAM or Mel-CAM), MUC18, S-Endo1, and A32 antigen, is an integral membrane glycoprotein that belongs to the Ig superfamily. CD146 is strongly expressed by murine vascular endothelial cells. It is expressed on about 30% of neutrophils and 60% of NK cells. Unlike in humans, CD146 is undetectable on monocytes, dendritic cells, T cells, NKT cells, B cells, or smooth muscle cells in mouse. It has been reported that an increase in CD146 expression is associated with NK cell maturation. Combined with using CD27 and CD11b staining, CD146 may be an alternative marker to detect final stages of NK cell maturation and define NK cell subsets. CD146 ⁺ NK cells were found to be less cytotoxic and to produce less IFN γ than CD146 ⁻ NK cells upon stimulation with target cells or activating antibodies. The role of CD146 on NK cell migration has yet to be investigated. The identification of CD146 ligand(s) will be crucial to address this issue.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Endothelial cell line TME-3H3
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
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 ≤ 0.25 µg per million cells in 100 µl volume. For immunohistochemistry, a concentration range of 5.0 - 10.0 µg/ml is suggested. It is recommended that the reagent be titrated for optimal performance for each application.

Application References

- Schrage A, *et al.* 2008. *Histochem. Cell. Biol.* 129:441.
- Birbrair A, *et al.* 2013. *Am J Physiol Cell Physiol.* 305:1098. [PubMed](#)

Product Citations

- Breitbach M, *et al.* 2018. *Cell Stem Cell.* 1.098611111. [PubMed](#)
- Zhou H, *et al.* 2019. *Genesis.* :e23295. [PubMed](#)
- Guimarães-Camboa N *et al.* 2017. *Cell stem cell.* 20(3):345-359. [PubMed](#)
- Qin XY, *et al.* 2017. *EBioMedicine.* 24:257. [PubMed](#)
- Lim PJ, *et al.* 2019. *Nat Metab.* 0.402083333. [PubMed](#)
- Birbrair A, *et al.* 2013. *Am J Physiol Cell Physiol.* 305:1098. [PubMed](#)
- Hirai M, *et al.* 2016. *Circ Res.* 118: 20 - 28. [PubMed](#)
- Hu X, *et al.* 2016. *Nat Commun.* 7:13095. [PubMed](#)
- Weng L, *et al.* 2016. *Sci Rep.* 6:38632. [PubMed](#)
- Luo Y, *et al.* 2017. *Cell Res.* 10.1038/cr.2017.8. [PubMed](#)
- Mierzejewski B, *et al.* 2020. *Stem Cell Res Ther.* 0.695138889. [PubMed](#)

12. Tsuchimoto A, *et al.* 2020. *Sci Rep.* 10:10796. [PubMed](#)
13. Grosse L, *et al.* 2020. *Cell Metabolism.* 32(1):87-99.e6. [PubMed](#)

RRID AB_1732002 (BioLegend Cat. No. 134701)
AB_1731991 (BioLegend Cat. No. 134702)

Antigen Details

Structure	CD146 is a transmembrane glycoprotein and belongs to the Ig superfamily of cell adhesion molecules.
Distribution	CD146 is strongly expressed by murine vascular endothelial cells, a subset of NK1.1 ⁺ cells, and neutrophils.
Function	CD146 has been reported to be functionally relevant for endothelial cell adhesion, angiogenesis, and NK cell function.
Ligand/Receptor	Unidentified ligand.
Cell Type	Endothelial cells, Mesenchymal Stem Cells, Neutrophils
Biology Area	Cell Biology, Immunology, Neuroscience, Neuroscience Cell Markers, Stem Cells
Molecular Family	Adhesion Molecules, CD Molecules
Antigen References	1. Despoix N, <i>et al.</i> 2008. <i>Eur. J. Immunol.</i> 38:2855. 2. Sorrentino A, <i>et al.</i> 2008. <i>Exp. Hematol.</i> 36:1035. 3. Bardin N, <i>et al.</i> 2009. <i>Arterioscler. Thromb. Vasc. Biol.</i> 29:746.
Gene ID	84004

Related Protocols

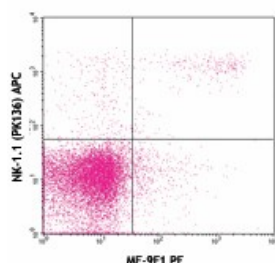
[Immunohistochemistry Protocol for Frozen Sections](#)

[Cell Surface Flow Cytometry Staining Protocol](#)

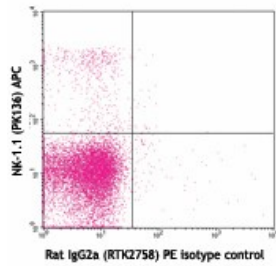
Other Formats

PerCP/Cyanine5.5 anti-mouse CD146, Purified anti-mouse CD146, PE anti-mouse CD146, FITC anti-mouse CD146, Alexa Fluor® 488 anti-mouse CD146, APC anti-mouse CD146, PE/Cyanine7 anti-mouse CD146, Alexa Fluor® 647 anti-mouse CD146, Biotin anti-mouse CD146, Alexa Fluor® 594 anti-mouse CD146

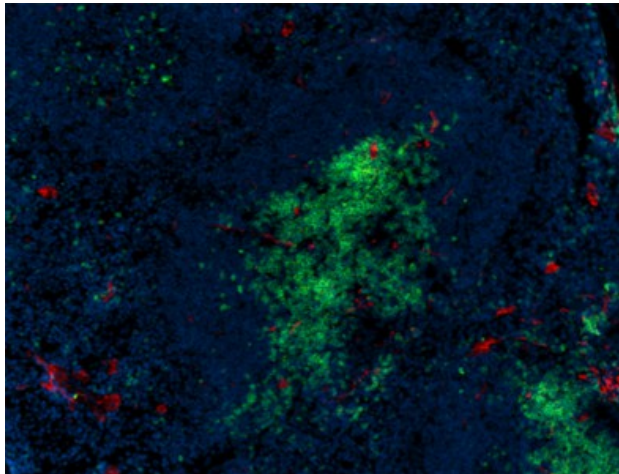
Product Data



C57BL/6 splenocytes stained with ME-9F1 PE and NK-1.1 (PK136) APC



C57BL/6 splenocytes stained with rat IgG2a (RTK2758) PE isotype control and NK-1.1 (PK136) APC



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 µg/ml of CD146 (clone ME-9F1) purified, and CD3ε (clone 500A2) Alexa Fluor® 594 (green) overnight at 4°C, followed by 2.5 µg/ml of anti-rat IgG (clone Poly4054) Alexa Fluor® 647 (red) for 2 hours at room temperature. Nuclei were counterstained with DAPI (blue). The image was captured by 10X objective.

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587