

CD146 (LSEC) antibodies, mouse

For research use only

9 µg equal 60 tests, 30 µg equal 200 tests. One test corresponds to labeling of 10⁶ cells.

Product	Content	Order no.
CD146 (LSEC)-FITC ¹	9 µg in 300 µL	130-102-790
CD146 (LSEC)-FITC ¹	30 µg in 1 mL	130-102-230
CD146 (LSEC)-PE	9 µg in 300 µL	130-102-844
CD146 (LSEC)-PE	30 µg in 1 mL	130-102-319
CD146 (LSEC)-APC	9 µg in 300 µL	130-102-846
CD146 (LSEC)-APC	30 µg in 1 mL	130-102-277
CD146 (LSEC)-VioBlue	9 µg in 300 µL	130-103-378
CD146 (LSEC)-VioBlue	30 µg in 1 mL	130-102-739
CD146 (LSEC)-PerCP-Vio700	9 µg in 300 µL	130-103-865
CD146 (LSEC)-PerCP-Vio700	30 µg in 1 mL	130-103-795
CD146 (LSEC)-Biotin	9 µg in 300 µL	130-101-991
CD146 (LSEC)-Biotin	30 µg in 1 mL	130-101-866

¹Not recommended for cells that are labeled with MACS MicroBeads using the same antigen.

Warnings

Reagents contain sodium azide. Under acidic conditions sodium azide yields hydrazoic acid, which is extremely toxic. Azide compounds should be diluted with running water before discarding. These precautions are recommended to avoid deposits in plumbing where explosive conditions may develop.

Technical data and background information

Antigen	CD146 (LSEC)
Clone	ME-9F1
Isotype	rat IgG2ak
Isotype control	Rat IgG2a – isotype control antibodies
Alternative names of antigen	MCAM, 1-gicerin, CD149, MUC18, S-endo, s-gicerin, Endo-CAM, Mel-CAM
Molecular mass of antigen [kDa]	69
Distribution of antigen	bone marrow, dendritic cells, endothelial cells, epithelial cells, fibroblasts, mesenchymal stem cells, ES and iPS cells, smooth muscle, T cells
Product format	Antibodies are supplied in buffer containing stabilizer and 0.05% sodium azide.
Fixation	The antibody is suited for staining of formaldehyde-fixed cells.
Storage	Store protected from light at 2–8 °C. Do not freeze.

The CD146 (LSEC) antibody (clone ME-9F1) binds to the CD146 antigen, which is expressed on mouse endothelial cells, including liver sinusoidal endothelial cells (LSECs), smooth muscle cells, and the basal membrane.¹

LSECs are microvascular endothelial cells lining the hepatic sinusoidal wall. Their strategic positioning favors a tight interaction with lymphocytes migrating through the liver. They possess a high capacity for antigen uptake and processing. However, in contrast to professional antigen-presenting cells (e.g. dendritic cells), they express only low levels of costimulatory molecules.²

Reagent requirements

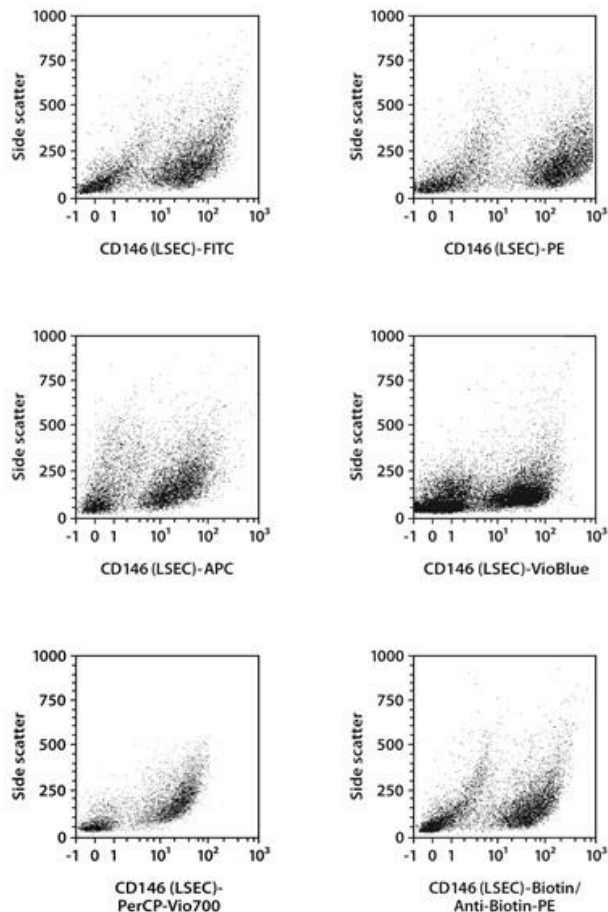
- Buffer: Prepare a solution containing phosphate-buffered saline (PBS), pH 7.2, 0.5% bovine serum albumin (BSA), and 2 mM EDTA by diluting MACS[®] BSA Stock Solution (# 130-091-376) 1:20 with autoMACS[®] Rinsing Solution (# 130-091-222). Keep buffer cold (2–8 °C).
Note: EDTA can be replaced by other supplements such as anticoagulant citrate dextrose formula-A (ACD-A) or citrate phosphate dextrose (CPD). Buffers or media containing Ca²⁺ or Mg²⁺ are not recommended for use.
- (Optional) FcR Blocking Reagent, mouse (# 130-092-575) to avoid Fc receptor-mediated antibody labeling.
- (Optional) Fluorochrome-conjugated anti-biotin antibodies, e.g., Anti-Biotin-PE (# 130-090-756) as secondary antibody reagent in combination with biotinylated antibodies.
- (Optional) Propidium Iodide Solution (# 130-093-233) for flow cytometric exclusion of dead cells without fixation.
- (Optional) Fixation and Dead Cell Discrimination Kit (# 130-091-163) for cell fixation and flow cytometric exclusion of dead cells.

Protocol for cell surface staining

- The recommended antibody dilution for labeling of cells and subsequent analysis by flow cytometry is 1:10 for up to 10⁶ cells/50 µL of buffer.
 - Volumes given below are for up to 10⁶ nucleated cells. When working with fewer than 10⁶ cells, use the same volumes as indicated. When working with higher cell numbers, scale up all reagent volumes and total volumes accordingly (e.g. for 2×10⁶ nucleated cells, use twice the volume of all indicated reagent volumes and total volumes).
1. Determine cell number.
 2. Centrifuge cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
 3. Resuspend up to 10⁶ nucleated cells per 45 µL of buffer.
 4. Add 5 µL of the antibody.
 5. Mix well and incubate for 10 minutes in the dark in the refrigerator (2–8 °C).
Note: Higher temperatures and/or longer incubation times may lead to non-specific cell labeling. Working on ice requires increased incubation times.
 6. Wash cells by adding 1–2 mL of buffer and centrifuge at 300×g for 10 minutes. Aspirate supernatant completely.
 7. (Optional) If biotinylated antibody was used, resuspend the cell pellet in 100 µL of buffer, add 10 µL of fluorochrome-conjugated anti-biotin antibody, and continue as described in steps 5 and 6.
 8. Resuspend cell pellet in a suitable amount of buffer for analysis by flow cytometry or fluorescence microscopy.

Examples of immunofluorescent staining

Mouse liver cells were stained with CD146 (LSEC) antibodies. Cells stained with CD146 (LSEC)-Biotin were also stained with Anti-Biotin-APC and analyzed by flow cytometry. Cell debris and dead cells were excluded from the analysis based on scatter signals and propidium iodide fluorescence.



References

1. **Harder et al.** (1991) Dissection of murine lymphocyte-endothelial cell interaction mechanisms by SV-40-transformed mouse endothelial cell lines: novel mechanisms mediating basal binding, and alpha 4-integrin-dependent cytokine-induced adhesion. *Exp. Cell Res.* 197: 259–267.
2. **Diehl, L. et al.** (2008) Tolerogenic maturation of liver sinusoidal endothelial cells promotes B7-homolog 1-dependent CD8⁺ T cell tolerance. *Hepatology* 47: 296–305.

Warranty

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