MONOCLONAL ANTIBODY TO MOUSE CD34
close MEC14.7

Catalog no: HM1015 (lot number and expiry date are indicated on the label)

Description: The monoclonal antibody MEC14.7 recognizes mouse CD34, a single-pass type I membrane glycoprophosphoprotein present on small vessel endothelial cells and hematopoietic progenitor cells. The apparent molecular mass of CD34 is heterogeneous, depending on the glycosylation state in different cell types. In cultured endothelioma cell lysate, CD34 has a molecular weight of ~100 kDa, whereas in lung lysates it is ~80 kDa. 2 Isoforms of CD34 exist, both are expressed on the cell surface. CD34 is an adhesion molecule performing a role in early hematopoiesis by mediating the attachment of stem cells to the bone marrow extracellular matrix or directly to stromal cells. CD34 acts as a scaffold for the attachment of lineage specific glycans, allowing stem cells to bind to lectins expressed by stromal cells or other marrow components. CD34 presents carbohydrate ligands to selectins. CD34 is widely used as a marker to select early hematopoietic stem and progenitor cells in experimental and clinical hematopoiesis.

The monoclonal antibody MEC14.7 recognizes a neuraminidase sensitive epitope on endothelium in vivo, particularly on small vessels and neoformed capillaries and developing vascular structures in embryonal structures.

The monoclonal antibody MEC14.7 can be used for identification and characterization of capillary endothelial cells. Furthermore, the antibody is useful for isolation and characterization of hematopoietic progenitor cells, particularly of myelomonocytic colony forming cells.

Monoclonal antibody MEC14.7 is also useful for immunopurification and cell separation.

Aliases: Hematopoietic progenitor cell antigen CD34

Immunogen: Murine transformed EC t-end.1

Species: Rat IgG2a

Formulation: 1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide.

Application:

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N.D. = Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immuno Precipitation; P = Paraffin sections; W = Western blot

Application notes:

W: both reduced/non-reduced; 70-105 kDa, depending on glycosylation state and cell type (Ref1)

P: Formalin fixed; boiled twice for 5 minutes in citrate (pH 6.0) as antigen retrieval (in house tested; Ref 4, 6) or 0.03 % trypsin treatment for 10 minutes at 37 °C (Ref3)

FC: mice blood cells; 0.1 µg MEC14.7/10^6 cells (Ref5)

IP: ~100 kDa protein in H5V cells (Ref1)

CD34 in mouse glioma. Staining of paraffin tissue section with antibody MEC14.7 (Cat. # HM1015). Anti-mouse CD34 at 5 µg/ml (o/n, 4°C) resulted in the specific staining of endothelial cells.
References

2. Dong, Q et al; A general strategy for isolation of endothelial cells from murine tissues: Characterization of two endothelial cell lines from the murine lung and subcutaneous sponge implants. Arterioscler Thromb Vasc Biol 1997, 17: 1599

Use
For immunohistology, flow cytometry and Western blotting, dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. For functional studies, in vitro dilutions have to be optimized in user’s experimental setting.

Positive control
H5V cells

Negative control
Muscle cells

Storage and stability
Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.

Precautions
For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

Also available
HM1013 Monoclonal antibody against Mouse CD31 (PECAM-1), clone MEC7.46
HM1057 Monoclonal antibody against Mouse JAM-C, clone CRAM-18 F26
HM1074 Monoclonal antibody against Mouse CD36, clone CRF D-2712