



Peninsula Laboratories, LLC

A Member of the Bachem Group

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Biotinylated Monoclonal Antibody To Mouse CD31 PECAM-1, Early Stage Myeloid Precursor Cells

Monoclonal antibody ER-MP12 recognizes PECAM-1, platelet/endothelial cell adhesion molecule 1. It is a general marker for the detection of a major population of haematopoietic stem cells and is useful for the accumulation of early murine macrophage precursors from bone marrow cell suspensions by FACS. An even more precise characterization of such isolated and concentrated precursor cells is achieved when ER-MP12 is combined with other markers like ER-MP20 (anti Ly-6C) or ER-MP58. The ER-MP12 antigen is also expressed by endothelial cells.

Product Number:	T-2018
Clone:	ER-MP12
Host species, isotype:	Rat IgG2a
Quantity:	300µg
Format:	Affinity purified, biotinylated, lyophilized Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.6mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 5mg/ml bovine serum albumin (BSA) as a stabilizer and 0.05% Kathon as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C Stock solution or aliquots thereof: 1 year at -20°C. Avoid repeated thawing and freezing.
Applications:	Tested for immunohistochemistry (IHC); has been described to work in FACS. Approximate working dilution for IHC: Frozen sections: 0.4µg/ml (1:1600) Paraffin sections: 15µg/ml (1:40); Proteinase K pretreatment for antigen retrieval is recommended Optimal dilutions should be determined by the end user. Suggested positive control: Mouse spleen.
Immunogen:	Murine macrophage precursor cells
Antigen, epitope:	The antigen is a glutaraldehyde (0.05%) and paraformaldehyde (1%) resistant 140kD surface glycoprotein (reducing and non reducing conditions) identified as CD31. The antigen expression closely follows that of CD34.



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Antigen distribution:

Isolated cells: The antigen is found on the surface of approximately 40% of freshly isolated bone marrow cells of adult mice, on the majority of immortalized macrophage precursor cell lines (M1, RMB-1, RMB-3) corresponding to CFU-GM cells. The antibody detects pluri- and multipotent stem cells and prothymocytes as well as particular lymphoid cells in bone marrow and peripheral lymphoid organs.

Tissue sections: The antigen is detected within the lymphopoietic islands in the spleen of newborn (day 12) and in the bone marrow of adult mice. Capillary endothelial cells of adult mice also express the antigen.

Specificity:

Mouse: Major population of colony forming unit macrophage (CFU-M) precursor cells, subpopulation of pre CFU-M and monoblasts, precursor cells of granulocytes.

Other: unknown

Selected references

Leenen, P.J.M. et. al. Murine Macrophage Precursor Characterization II. Monoclonal Antibodies against Macrophage Precursor Antigens. *Eur. J. Immunol.* 20, 27-34 (1990).

De Bruijn, M.F.T.R. et. al. Distinct mouse bone marrow macrophage precursors identified by differential expression of the ER-MP12 and ER-MP20 antigens. *Eur. J. Immunol.* 24: 2279-2284 (1994).

Ling, V. et. al. Structural identification of ER-MP12 antigens as the vascular endothelial adhesion molecule PECAM-1. *Eur. J. Immunol.* 27:509-514 (1997).

De Bruijn, M.F.T.R. et, al. Analysis of ER-MP12/20 bone marrow populations in *Listeria monocytogenes* infected mice: a flow cytometric alternative for differential counting. *J. Immunol. Meth.* In press.

Takahashi, K. et al.: Effects of macrophage colony-stimulating factor (M-CSF) on the development, differentiation, and maturation of marginal metallophilic macrophages and marginal zone macrophages in the spleen of osteopetrosis (op) mutant mice lacking functional M-CSF activity. *J. Leukoc. Biol.* 55: 581-88 (1994)

For *in vitro* research only. Caution: this product contains Kathon, a poisonous and hazardous substance.