

## Murine Early Stage Myeloid Precursor Cells- Surface (CD31) Antibody

Rat monoclonal antibody to Murine Early Stage Myeloid Precursor Cells- Surface (CD31)

Catalog Number **BM4086**

### Background:

Er-MP 12 is a general marker for the detection of a major population of myeloid precursor 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-MP 12 is combined with other markers. The ER-MP 12 antigen is also expressed by endothelial cells. The antigen is found on major population of colony forming unit macrophage (CFU-M) precursor cells, subpopulation of pre CFU-M and monoblasts, precursor cells of granulocytes. On isolated cells the antibody stains the surface of approximately 40% of freshly isolated bone marrow cells of adult mice and 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. In tissue sections the antibody stains the lymphopoietic islands in the spleen of newborn (day 12) and the bone marrow of adult mice. Capillary endothelial cells of adult mice also express the antigen.

**Host:** Rat

**Clone Name:** ER-MP12

**Isotype:** IgG2a

**Uses and Dilutions:** Immunohistochemistry on frozen sections and paraffin sections (2ug/ml); also suitable for western blotting. Antigen retrieval: Proteinase K (protocol available). Fixation: Acetone, Formaldehyde, Glutaraldehyde. The antigen is a glutaraldehyde (0.05%) and paraformaldehyde (1%) resistant 140kD surface glycoprotein (reducing and non reducing conditions). Optimal dilutions of this antibody are dependent on conditions and should be determined by the user.

**Form:** 0.1 mg of lyophilised antibody from PBS pH 7.2 containing 10 mg/ml BSA and 0.01% Thimerosal as a preservative. Reconstitute with 0.5 ml distilled water.

**Storage:** Store the antibody unreconstituted at 4-8 degrees Celcius or reconstituted in aliquots at -20 degrees Celcius. **DO NOT FREEZE WORKING DILUTIONS!!** Avoid repeated freezing and thawing. Shelf life: one year from dispatch.

**Limitations:** This product is for research use only and is not approved for use in humans or in clinical diagnosis.

**Product References:**

1. Leenen, P.J.M., et al. Murine Macrophage Precursor Characterization II. Monoclonal antibodies against Macrophage Precursor Antigens. *Eur.J. Immunol.* 20, 27-34, 1990.
2. 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.
3. 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.
4. Takahashi, K. et al.: Effects of macrophage colony-stimulating factor (M-CSF) on the



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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.  
5. De Bruijn, M.F.T.R. et al.: *J. Immunol. Meth.* 217: 27-39, 1998.