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Biotinylated Monoclonal Antibody To Mouse Mid-Stage Macrophage Precursor Cells

Ly-6C, Late CFU-M, Monoblasts and Monocytes

Monoclonal antibody ER-MP20 is useful for the detection of macrophage precursor cells in mid-stage development (late CFU-M, monoblasts and monocytes). It is ideally suited for the detection of monocytes in bone marrow samples by FACS. ER-MP20 also identifies activated macrophages in inflammatory tissues where the simultaneous use of the murine pan-macrophage marker BM8 (anti F4/80, product T-2006) is recommended. ER-MP20 also detects a wide range of endothelial cells.

This antibody was produced serum-free, without fetal calf serum.

Product number: T-2019

Clone: ER-MP20

Lot: 05PB1418

TECHNICAL AND ANALYTICAL CHARACTERISTICS:

Host species, isotype:	Rat IgG2a
Quantity:	100µg
Format:	Affinity purified, biotinylated, lyophilized. Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.2mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 5mg/ml bovine serum albumin (BSA) as a stabilizer and 0.05% Kathon CG 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:	Each lot of this antibody has been tested and validated for immunohistochemistry (IHC); has also been described to work in FACS. Approximate working dilution for IHC: Frozen sections: 0.2µg/ml (1:1000) Paraffin sections: 0.4µg/ml (1:500); Proteinase K pretreatment for antigen retrieval is recommended. Optimal dilutions should be determined by the end user. Suggested positive control: Mouse spleen. Please see www.bma.ch for protocols and general information.
Immunogen:	Mouse macrophage cell lines.

Antigen, epitope:	The antigen is a glutaraldehyde (0.05%) and paraformaldehyde (1%) resistant 14kD surface protein which is very similar to Ly-6C and may be analogous to human CD59. It is inducible by IFN-alpha, IFN-beta and IFN-gamma.
Antigen distribution:	<p>Isolated cells: In bone marrow cells the antigen is found on monoblasts and late CFU-M cells as well as on monocytes. It is also found on granulocytes and a subpopulation of lymphocytes in the peripheral blood. Granulocytic cells show a dull, and monocytic cells a bright antigen surface expression. Lymphoid cells express the antigen only very weakly. Thus, in the bone marrow three useful FACS windows can be defined for cell sorting purposes.</p> <p>Tissue sections: The antigen is found on macrophage precursor subpopulations in the bone marrow and haematopoietic islands of the lymphoid organs, and in the spleen. Endothelial cells of small vessels in various organs also stain positive with ER-MP 20. Activated macrophages in inflammatory tissues also express the ER-MP 20-related antigen.</p>
Specificity:	<p>Mouse: Macrophage precursor cells, endothelial cells.</p> <p>Other species: does not react with porcine tissues.</p>

Selected references

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- 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. (1998).
- CHAN J., et al. Macrophage lineage cells in inflammation: characterization by CSF-1 receptor (c-Fms), ER-MP58 and ER-MP20 (Ly-6C) expression. *Blood*, in press (1998).
- McCORMACK J., et al. Macrophage Progenitors from Mouse Bone Marrow and Spleen differ in their Expression of the Ly-6C Differentiation Antigen. *J. Immunol.* 151(11), 6389-6398 (1993).
- P.J.M. LEENEN et al.: Murine Macrophage Precursor Characterization II. Monoclonal Antibodies against Macrophage Precursor Antigens. *Eur. J. Immunol.* 20, 27-34 (1990).
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- R.H.J. BEELEN et al.: Milky spots in the omentum play an important role in the origin and differentiation of peritoneal macrophages. *Abst. Vth annual conference of the Upper Rhine Universities on the Macrophage*, Sept. 4/5th (1991).
- P.J.M. LEENEN et al.: Differential Inhibition of Macrophage Proliferation by Anti-Transferin Receptor antibody ER-MP 21: Correlation to Macrophage Differentiation Stage. *Exp. Cell Res.* 189, 55-63 (1990).

For *in vitro* research only. This product contains Kathon CG as a preservative.