



BMA BIOMEDICALS

Monoclonal Antibody To Mouse Marginal Zone Macrophages (SIGN-R1)

Subpopulation Of Mature Tissue Macrophages In Spleen And Lymph Node

Monoclonal antibody ER-TR9 is a very useful marker for the identification of macrophage subpopulations present in the marginal zone of spleen and lymph node medulla. In combination with MOMA-1 (product T-2011), the murine metallophilic macrophage marker, a detailed characterization of murine splenic marginal zone macrophages is obtained. ER-TR9 is also useful when studying phagocytosis of polysaccharides since the antibody selectively inhibits uptake of these glycans by macrophages. The antigen recognized by ER-TR9 has recently been shown to be the murine analogue of the human DC-SIGN (Dendritic Cell - Specific ICAM-3 Grabbing Non-Integrin), named SIGN-R1.

TECHNICAL AND ANALYTICAL CHARACTERISTICS

Product Number:	T-2010 (Lot 07PO0405)
Clone:	ER-TR9
Host species, isotype:	Rat IgM
Quantity:	150µg
Format:	Affinity purified, lyophilized Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.3mg/ml IgM, phosphate buffered saline pH 7.2 (PBS) and 0.1% (v/v) Kathon™ CG as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C from date of purchase. Stock solution or aliquots thereof: 1 year at -20°C. Avoid freeze-thaw cycles.
Applications:	Tested for immunohistochemistry (IHC); has been described to work in FACS. Approximate working dilution for IHC: Frozen sections: 0.5µg/ml (1:600) Paraffin sections: does not react on routinely processed paraffin sections. 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:	Thymus cell

Antigen, epitope

The antigen is a glutaraldehyde (0.05%) resistant protein expressed in the cytoplasm and on the cell surface.

Antigen distribution:

Isolated Cells: The antigen is found on a subpopulation of phagocytic macrophages isolated from the spleen and showing acid phosphatase and moderate non-specific esterase activity. These phagocytes selectively ingest neutral polysaccharides such as Ficoll.

Tissue Sections: Subpopulation of resident macrophages in the splenic marginal zone which are in the proximity of a certain B cell subpopulation ($\mu+$, d-). It is also found on a subpopulation of macrophages localized in the medullary sinuses and trabecular sinuses of lymph nodes. Furthermore, macrophage subpopulations in other organs, such as some connective tissue macrophages in the dermis, may also show ER-TR9 antigen expression.

Specificity:

Mouse: Subpopulation of mature tissue macrophages present in the splenic marginal zone, lymph node medullary and trabecular sinuses.

Other: unknown

Selected references

Kang, Young - Sun, et al.: SIGN-R1, a novel C-type lectin expressed by marginal zone macrophages in spleen, mediates uptake of the polysaccharide dextran. *Int. Immunol.* **15**, 177-186 (2003).

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Dijkstra, C.D., E. van Vliet, A. Doepp, A.A. van der Lelij, G. Kraal: Marginal zone macrophages identified by a monoclonal antibody: characterization of immuno- and enzyme-histochemical properties and functional capacities. *Immunology* **55**: 23-30 (1985)

Kraal, G., H. ter Hart, C. Meelhuizen, G. Venneker, E. Claassen: Marginal zone macrophages and their role in the immune response against T-independent type 2 antigens: modulation of the cells with specific antibody. *Eur. J. Immunol.* **19**: 675-680 (1989).

Takahashi, K., S. Umeda, L.D. Shultz, S. Hayashi, S. Nishikawa: 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**: 581-588 (1994)

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