

SM2011PT**Monoclonal Antibody to MRP8 / MRP14 - Aff - Purified**

Alternate names:	MRP8/14, S100A8, S100A8/A9, S100A9
Quantity:	20 µg
Concentration:	1.0 mg/ml
Background:	Macrophages comprise of many forms of mononuclear phagocytes found in tissues. Mononuclear phagocytes arise from hematopoietic stem cells in the bone marrow. After passing through the monoblast and promonocyte states of the monocyte stage, they enter the blood, where they circulate for about 40 hours. They then enter tissues and increase in size, phagocytic activity, and lysosomal enzyme content becoming macrophages. Among the functions of macrophages are nonspecific phagocytosis and pinocytosis, specific phagocytosis of opsonized microorganisms mediated by Fc receptors and complement receptors, killing of ingested microorganisms, digestion and presentation of antigens to T and B lymphocytes, and secretion of a large number of diverse products, including many enzymes including lysozyme and collagenases, several complement components and coagulation factors, some prostaglandins and leukotrienes, and many regulatory molecules (Interferon, Interleukin 1). Among cells that are now recognised as macrophages are histiocytes, Kupffer cells, osteoclasts, microglial cells, synovial type A cells, interdigitating cells, and Langerhans cells (in normal tissues) and epithelioid cells and Langerhans-type and foreign-body-type multinucleated giant cells (in inflamed tissues).
Host / Isotype:	Mouse / IgG1
Clone:	MAC387
Immunogen:	Human Monocytes. Spleen cells from immunised BALB/c mice were fused with cells of the mouse NS1 myeloma cell line.
Format:	State: Liquid purified IgG fraction Purification: Affinity Chromatography on Protein G Buffer System: PBS Preservatives: 0.09% Sodium Azide
Applications:	Flow Cytometry: Use 10 µl of 1/50-1/100 diluted antibody to label 1x10 ⁶ cells in 100 µl (Membrane permeabilisation is required). Immunohistochemistry on Frozen Sections: 1/100-1/200. Immunohistochemistry on Paraffin Embedded Sections: 1/100-1/200. This antibody requires protein digestion pre-treatment e.g. trypsin, 0.1% for 10 minutes or antigen retrieval using heat treatment prior to staining. Recommended Positive Control: Human Spleen Tissue. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	This antibody recognizes the L1 or Calprotectin molecule, an intracytoplasmic antigen comprised of a 12kD alpha chain and a 14kD beta chain expressed by Granulocytes, Monocytes and by tissue Macrophages. Variable results have been reported for

staining brain macrophages and microglia.

- Species Reactivity:** **Tested:** Human, Horse, Porcine, Canine, Rabbit, Baboon, Bovine, Fallow deer, Guinea Pig, Rat, Feline, Cynomolgus monkey, Rhesus monkey and Goat.
- Storage:** Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.
- General Readings:**
1. Brandtzaeg, P., et al (1988). MAC387 antibody and detection of formalin resistant myelomonocytic L1 antigen J. Clin. Path. 41: 963-970.
 2. Brandtzaeg, P. et al (1992). The leucocyte protein L1 (calprotectin): usefulness as an immunohistochemical marker antigen and putative biological function. Histopathol. 21: 191-196.
 3. Flavell, D.J., Jones, D.B., Wright, D.H. (1987). Identification of tissue histiocytes on paraffin sections by a new monoclonal antibody. J. Histochem. Cytochem. 35: 1217-1226.
 4. Gutierrez, M. et al. (1999). The detection of CD2+, CD4+, CD8+ and WC1+, Tlymphocytes, B cells and macrophages in fixed and paraffin embedded bovine tissue using range of antigen recovery and signal amplification techniques. Vet. Immunol. Immunopathol. 71: 321-334.
 5. Ramsay, A. D. et al. (1991). Phenotypic analysis of malignant lymphoma in simian immunodeficiency virus infection using anti-human antibodies. Journal of Pathology. 164: 321 - 328.
 6. Christgau, M. et al. (1998). Characterization of Immunocompetent cells in the diseased canine periodontium. Journal of Histochemistry & Cytochemistry. 46 (12): 1443-1454.
 7. Perez, J. et al. (1999). Immunohistochemical study of the inflammatory infiltrate associated with equine squamous cell carcinoma. J. Comp. Path. 121: 385-397.
 8. Obert, L. et al. (2002). Early pathogenesis of transmucosal Feline Immunodeficiency Virus infection. J. Virol. 76 (12): 6311-6322.
 9. Malik, N. et al. (1998). Apoptosis and Cell proliferation after porcine coronary angioplasty. Circulation. 98: 1657-1665.
 10. Bagavant, H. et al. (2002). Induction and immunohistology of autoimmune ovarian disease in cynomolgus macaques (*Macaca fascicularis*). Am. J. Pathol. 160: 141-149.
 11. Sanchez, J. et al. (2011) Microscopical and Immunological Features of Tuberculoid Granulomata and Cavitory Pulmonary Tuberculosis in Naturally Infected Goats. J Comp Pathol. Feb 17. [Epub ahead of print]
 12. Pomeroy, I.M. et al. (2005) Demyelinated neocortical lesions in marmoset autoimmune ecephalomyelitis mimic those in multiple sclerosis. Brain. 128: 2713-21.
 13. Vranckx, K. et al. (2012) Vaccination reduces macrophage infiltration in bronchus-associated lymphoid tissue in pigs infected with a highly virulent *Mycoplasma hyopneumoniae* strain BMC Veterinary Research 8:24
 14. Campuzano, O. et al. (2012) Arrhythmogenic right ventricular cardiomyopathy: severe structural alterations are associated with inflammation J Clin Pathol 3 sept [epub ahead of print]
 15. García-Jiménez, W.L. (2012) Histological and immunohistochemical characterisation of *Mycobacterium bovis* induced granulomas in naturally infected

fallow deer (*Dama dama*). *Vet Immunol Immunopathol.* 149: 66-75.

16. Carrade, D.D. et al. (2012) Comparative Analysis of the Immunomodulatory Properties of Equine Adult-Derived Mesenchymal Stem Cells. *Cell Medicine.* 4: 1-11.

17. Masure, D. et al. (2013) A Role for Eosinophils in the Intestinal Immunity against Infective *Ascaris suum* Larvae. *PLoS Negl Trop Dis.* 2013 Mar;7(3): e2138.

18. Tellez, A. et al. (2014) Experimental evaluation of efficacy and healing response of everolimus-eluting stents in the familial hypercholesterolemic swine model: a comparative study of bioabsorbable versus durable polymer stent platforms *Coron Artery Dis.* Mar 17. [Epub ahead of print]

Pictures:

Figure 1. SM2011P/PT Macrophages antibody staining of allergic marmoset brain using enhanced DAB. Mag. X400.

