

## Monoclonal Antibody to MRP8/14 (S100A8/A9) - FITC

<b>Alternate names:</b>	CAGA, CAGB, CFAG, CFAG, Calgranulin A/B, Calprotectin, L1 Protein, MRP-14, MRP-8, P14, P8
<b>Catalog No.:</b>	BM4025F
<b>Quantity:</b>	0.2 mg
<b>Concentration:</b>	0.2 mg/ml
<b>Background:</b>	<p>MRP8 and MRP14 are members of the S100 family of proteins containing 2 EF hand calcium binding motifs. S100 proteins are localized in the cytoplasm and/or nucleus of a wide range of cells, and involved in the regulation of a number of cellular processes such as cell cycle progression and differentiation. S100 genes include at least 13 members which are located as a cluster on chromosome 1q21.</p> <p>The antigen is produced by the heterocomplex formation of MRP8 (S100A8 or Calgranulin A) and MRP14 (S100A9 or Calgranulin B), two calcium binding proteins of the S 100 protein family.</p>
<b>Host / Isotype:</b>	Mouse / IgG1
<b>Clone:</b>	27E10
<b>Immunogen:</b>	Cultured Human Monocytes. <b>Remarks:</b> The antigen is MRP8/14 (calprotectin), the epitope involves parts of both subunits MRP8 and MRP14.
<b>Format:</b>	<b>State:</b> Liquid purified IgG fraction <b>Purification:</b> Affinity Chromatography <b>Buffer System:</b> PBS, pH 7.2 <b>Preservatives:</b> 0.09% Sodium Azide <b>Stabilizers:</b> 10 mg/ml BSA <b>Label:</b> FITC
<b>Applications:</b>	<b>Immunofluorescence.</b> Has been described to work in <b>FACS</b> (10-20 µg/ml). <i>Recommended Positive Control:</i> Human Monocytes. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
<b>Specificity:</b>	This antibody is ideally suited for the detection of early inflammatory macrophages and thus for the classification of acute stage inflammation in tissue sections and in smears, the characterization of tumorous tissues and the in vitro monitoring of peripheral blood cell cultures. Clone <b>27E10</b> is unique in that it recognizes an epitope on the MRP8/14 heterocomplex that is not exposed on the individual subunits MRP8 or MRP14. The antibody reacts with Human subpopulations of macrophages, monocytes and granulocytes; peripheral blood monocytes carry the antigen extra- and intracellularly, neutrophils only intracellularly.

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**Antigen Distribution**

**Isolated Cells:** Monocytes carry the antigen both on the surface and intracellularly, granulocytes exhibit it only intracellularly. Up to 80% of monocytes in early cultures (24-48h) are positive. No reaction has been seen with lymphocytes or platelets.

**Tissue Sections:** The antigen is found in macrophages in the red pulp of the spleen and liver. It is strongly expressed in macrophages from acute inflamed tissues (peridontitis, contact eczema, urticaria, erythrodermia) where some endothelial and epidermal cells may also express this antigen. It is normally absent on resident mononuclear phagocytes in healthy tissues (skin, gut, thymus).

**Species Reactivity:** **Tested:** Human. The antibody also stains a subpopulation of macrophages of Rhesus Monkey and Bovine tissues. It does not react with Swine tissues.

**Storage:** Store the antibody undiluted at 2-8°C.  
Shelf life: one year from despatch.

**Product Citation:** 1. Saeid Ghavami, Iran Rashedi, Brian M. Dattilo, Mehdi Eshraghi, Walter J. Chazin, Mohammad Hashemi, Sebastian Wesselborg, Claus Kerkhoff, and Marek Los. S100A8/A9 at low concentration promotes tumor cell growth via RAGE ligation and MAP kinase-dependent pathway. *J. Leukoc. Biol.*, Jun 2008; 83: 1484-1492.

Unconjugated antibody is cited in:

1. Lukas A. Altwegg, Michel Neidhart, Martin Hersberger, Simone Müller, Franz R. Eberli, Roberto Corti, Marco Roffi, Gabor Sütsch, Steffen Gay, Arnold von Eckardstein, Manfred B. Wischnewsky, Thomas F. Lüscher, and Willibald Maier. Myeloid-related protein 8/14 complex is released by monocytes and granulocytes at the site of coronary occlusion: a novel, early, and sensitive marker of acute coronary syndromes. *Eur. Heart J.*, Apr 2007; 28: 941-948.

**General References:** 1. Zwadlo, G. et al.: A monoclonal antibody to a subset of human monocytes found only in the peripheral blood and inflammatory tissues. *J. Immunol.* 137: 512-518 (1986)  
2. Broecker, E.B. et al.: Inflammatory cell infiltrates in human melanoma at different stages of tumor progression. *Int. Cancer* 41, 562-567 (1988).  
3. Fruhbais, B. et al.: Immunolocalization of an angiogenic factor (HAF) in normal inflammatory and tumor tissues. *Int. J. Canc.* 42, 207-212 (1988).  
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8. Burkhardt, K. et al.: MRP8/14 positive macrophages as early acute cellular rejection markers, and soluble MRP8/14 and increased expression of adhesion molecules following renal allograft transplantation. *Transpl. Proceed.* 27: 890-91 (1995)  
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10. Kiefer, R. et al.: Macrophage differentiation antigens in acute and chronic autoimmune polyneuropathies. *Brain* 121: 469-79 (1998)

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