BM4026

Monoclonal Antibody to S100A9 / Calgranulin-B / MRP14 - Purified

Alternate names: CAGB, Calprotectin L1H subunit, Leukocyte L1 complex heavy chain, MRP-14, Migration inhibitory factor-related protein 14, S100 calcium-binding protein A9, S100-A9

Quantity: 0.1 mg
Concentration: 0.2 mg/ml (after reconstitution)

Background: S100A9 is a member of the S100 family of proteins. S100A9, together with S100A8 forms a heterodimeric protein complex, Calprotectin, which is a major calcium- and zinc-binding protein in the cytosol of neutrophils, monocytes, and keratinocytes. Complexes of S100A8 and S100A9 are the physiologically relevant forms of these proteins. S100A9 may function in the inhibition of casein kinase and altered expression of this protein is associated with the disease cystic fibrosis. Its expression and potential cytokine-like function in inflammation and in cancer suggest that S100A8/A9 may play a key role in inflammation-associated cancer.

Uniprot ID: P06702
NCBI: 9606
GeneID: 6280
Host / Isotype: Mouse / IgG1
Recommended Isotype Controls: SM10P (for use in human samples), AM03095PU-N
Clone: S36.48

Immunogen: Cultured Human monocytes.

Remarks: The antigen is MRP14, the epitope is suspected in the central region of the peptide.

Format: State: Lyophilized purified IgG fraction from cell culture supernatant
Purification: Affinity Chromatography
Buffer System: PBS, pH 7.2 containing 5 mg/ml BSA as a stabilizer and 0.05% (v/v) Kathon CG as a preservative
Reconstitution: Restore in 0.5 ml distilled water to a concentration of 0.2 mg/ml

Applications: ELISA.
Immunohistochemistry on Frozen Sections: 0.25 µg/ml (1/800).
Immunohistochemistry on Paraffin Sections: 1 µg/ml (1/200). Proteinase K pre-treatment for antigen retrieval is recommended.

Suggested Positive Control: Human tonsil.
Has been described to work in FACS and Dot Blots.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

For research and in vitro use only. Not for diagnostic or therapeutic work. Material Safety Datasheets are available at www.acris-antibodies.com or on request.
Specificity: Human MRP14, Granulocytes, stimulated Monocytes and Macrophages:
This clone identifies the Ca\(^{2+}\)-binding 14kD subunit of the inflammatory L-1 protein complex, also called S100A9 or Calgranulin B. It is useful for the characterization of circulating granulocytes or inflammatory infiltrates of the myelo-monocytic lineage which express MRP14 differently depending on the inflammatory status of the disease.

Antigen Distribution

Isolated Cells: The antigen is found in granulocytes and monocytes. It is absent from all other blood cells. In cultured monocytes, maximum MRP14 expression is found after 3-4 days. Myeloid leukaemic cells have been found to be positive as well.

Tissue Sections: MRP-14 is found in a distinct subpopulation of inflammatory perivascular infiltrates of the myelo-monocytic lineage. Macrophages synthesise MRP-14 increasingly during the early stages of inflammation. A high MRP-14 (and low MRP-8) expression by macrophages was reported in granulomatous diseases such as tuberculosis and sarcoidis. In non-granulomatous chronic inflammatory diseases like chronic rheumatoid arthritis, MRP8 and MRP14 positive cells consist of different subpopulations. During early inflammation endothelial cells are also positive with MRP8/14 determined by antibody 27E10 (Product Cat.-No BM4025).

Species Reactivity: Tested: Human. The antibody reacts with Bovine spleen and not with Swine spleen.

Storage: Store lyophilized at 2-8°C for 6 months or at -20°C long term. After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term. Avoid repeated freezing and thawing. Shelf life: one year from despatch.

General Readings:

Protocols:

**Protocol with Frozen, ice-cold Acetone-Fixed Sections:**
(The whole procedure is performed at room temperature)

1. Wash in PBS
2. Block endogenous peroxidase
3. Wash in PBS
4. Block with 10% normal goat serum in PBS for 30min. in a humid chamber
5. Incubate with primary antibody (dilution see datasheet) for 1h in a humid chamber
6. Wash in PBS
7. Incubate with secondary antibody (peroxidase-conjugated goat anti mouse IgG+IgM (H+L) minimal-cross reaction to human) for 1h in a humid chamber
8. Wash in PBS
9. Incubate with AEC substrate (3-amino-9-ethylcarbazol) for 12min.
10. Wash in PBS
11. Counterstain with Mayer’s hemalum

**Protocol with Formalin-Fixed, Paraffin-Embedded Sections:**
(The whole procedure is performed at room temperature)

1. Deparaffinize and rehydrate tissue section
2. Incubate the tissue section with proteinase K for 7min.
3. Wash in distilled water
4. Block endogenous peroxidase
5. Wash in PBS
6. Block with 10% normal goat serum in PBS for 30min. in a humid chamber
7. Incubate with primary antibody (dilution see datasheet) for 1h in a humid chamber
8. Wash in PBS
9. Incubate with secondary antibody (peroxidase-conjugated goat anti mouse IgG+IgM (H+L) minimal-cross reaction to human) for 1h in a humid chamber
10. Wash in PBS
11. Incubate with AEC substrate (3-amino-9-ethylcarbazol) for 12min.
12. Wash in PBS
13. Counterstain with Mayer’s hemalum
Pictures:

Immunohistochemical staining on Human Spleen Paraffin Sections using S100A9 antibody clone S36.48

Immunohistochemical staining on Human Spleen Paraffin Sections using S100A9 antibody clone S36.48.

Immunohistochemical staining on Human Spleen Paraffin Sections using S100A9 antibody clone S36.48.
Immunohistochemical staining on Human Liver Paraffin Sections using S100A9 antibody clone S36.48