Human S100A8/S100A9 Heterodimer Antibody

Recombinant Monoclonal Rabbit IgG Clone # 1099F
Catalog Number: MAB45701

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human S100A8/S100A9 in direct ELISAs. In ELISAs, it detects recombinant human S100A8/S100A9 heterodimer but it does not detect recombinant human S100A8 or S100A9 monomers.
Source	Recombinant Monoclonal Rabbit IgG Clone # 1099F
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E. coli*-derived recombinant human S100A8/S100A9 heterodimer Met1-Glu93 (S100A8) & Thr2-Pro114 (S100A9) Accession # P05109 (S100A8) and P06702 (S100A9)
Formulation	Supplied as a solution in PBS containing BSA, Glycerol and Sodium Azide. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

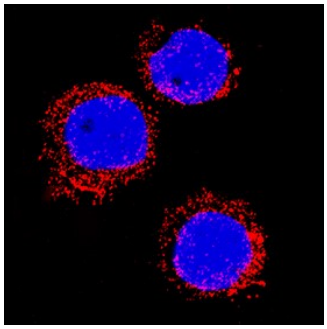
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Immunocytochemistry	3-25 µg/mL	See Below
Immunohistochemistry	10-25 µg/mL	See Below

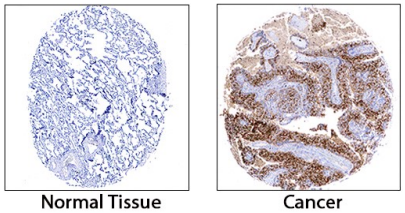
DATA

Immunocytochemistry



S100A8/S100A9 Heterodimer in HL60 Human Cell Line. S100A8/S100A9 Heterodimer was detected in immersion fixed HL60 human promyelocytic leukemia cell line using Rabbit Anti-Human S100A8/S100A9 Heterodimer Monoclonal Antibody (Catalog # MAB45701) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm (punctate). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Immunohistochemistry



S100A8/S100A9 Heterodimer in Human Lung Cancer Tissue. S100A8/S100A9 Heterodimer was detected in immersion fixed paraffin-embedded sections of human lung cancer tissue using Rabbit Anti-Human S100A8/S100A9 Heterodimer Monoclonal Antibody (Catalog # MAB45701) at 10 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Rabbit IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC003). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in tumor cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C, as supplied. ● 1 month, 2 to 8 °C under sterile conditions after opening. ● 6 months, -20 to -70 °C under sterile conditions after opening.

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BACKGROUND

S100A8 (also known as MRP8, Calgranulin A, and CP-10) and S100A9 (also known as MRP14 and Calgranulin B) are pro-inflammatory members of the S100 family of secreted calcium binding proteins (1, 2). They are up-regulated in neutrophils and monocytes at sites of inflammation (*e.g.* psoriasis, rheumatoid arthritis, cardiac ischemia) and are present at elevated concentrations in rheumatoid arthritis synovial fluid (3-5). The 10 kDa human S100A8 and 14 kDa S100A9 each contain two EF-hand calcium binding motifs. Human S100A8 shares 57% and 61% amino acid (aa) sequence identity with mouse and rat S100A8, respectively. Human S100A9 shares 57% and 62% amino acid sequence identity with mouse and rat S100A9, respectively (6, 7). In the presence of calcium or zinc, S100A8 and S100A9 associate into non-covalent homodimers and 34-35 kDa heterodimers with each other (8-10). The heterodimer additionally binds and sequesters manganese, thereby restricting the growth of Mn-dependent bacteria (11). The S100A8/A9 heterodimer exhibits functions beyond those performed by the individual proteins. These include binding to fatty acids such as arachidonic acid and promoting astrocyte proliferation (3, 12). S100A8, S100A9, and the heterodimer each promote neutrophil infiltration into sites of inflammation and inflammatory cytokine production by monocytes (4, 5, 9).

References:

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12. Ryu, M-J. *et al.* (2012) J. Biol. Chem. **287**:22948.

PRODUCT SPECIFIC NOTICES

* Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to SDS for additional information and handling instructions.

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