Mouse S100A4 Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_{2B} Clone # 438709

Catalog Number: FAB4138G

100 µg

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse S100A4 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse S100A6, 8, 9, 10, 13, 16, recombinant human (rh) S100A1, 2, 7, 11, or rhS100P is observed.
Source	Monoclonal Rat IgG_{2B} Clone # 438709
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant mouse S100A4 Ala2-Lys101 Accession # P07091
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

S100A4 (also named Metastasin, Mtsl and Calvasculin) is an 11 kDa member of the S100 (soluble in 100% saturated ammonium sulfate) family of proteins (1-5). S100 family members belong to the EF-hand superfamily of Ca^{++}-binding proteins. These participate in both calcium-dependent and calcium-independent protein-protein interactions. The hallmark of this superfamily is the EF-hand motif that consists of a Ca^{++}-binding site flanked by two α-helices (helix E and helix F) that were originally identified in a right-handed model of carp muscle calcium-binding protein (6). Mouse S100A4 is 101 amino acids (aa) in length (1, 2). It contains two EF hand domains (aa 12-47 and aa 50-85). The first domain has a 14 aa cation-binding motif and binds Ca^{++} with low affinity. The second Ca^{++}-binding motif is 12 aa in length and binds Ca^{++} with high affinity. S100A4 has no classical signal sequence but is secreted from cells (3, 7). Mouse S100A4 shares 93%, 96% and 89% aa identity with human, rat and canine S100A4, respectively. S100A4 exists as dimer (8, 9, 10). Extracellular S100A4 is reported to induce MMP production, activate MMPs, promote neurite outgrowth and stimulate cardiomyocyte proliferation (4, 10, 11, 12, 13). Within the cell, dimers are likely the functional unit. Here, they are constitutive homo- or heterodimers (with S100A1) that interact with Ca^{++}, undergo a conformational change, and subsequently bind to cytoplasmic targets. Known targets include p53, Myosin heavy chain II, F-actin and Liprin β1 (4, 14). In general, it can be said that S100A4 blocks target phosphorylation and multimerization (4, 7, 14). S100A4 activity has been associated with cell transformation. It seems likely this is either coincidental, or a consequence, rather than a cause of transformation (3).

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