

DESCRIPTION

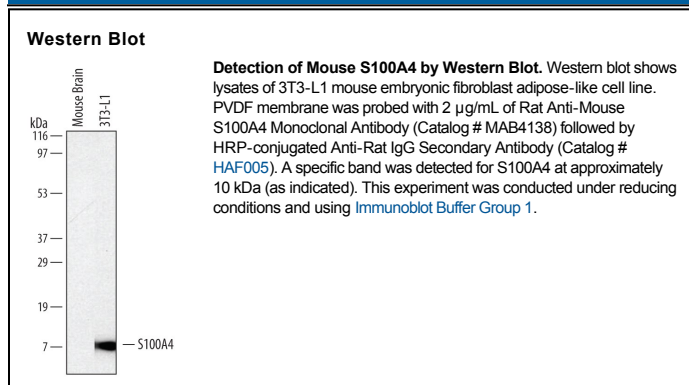
Species Reactivity	Mouse
Specificity	Detects mouse S100A4 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse S100A6, 8, 9, 10, 13, 16, recombinant human (rh) S100A1, 2, 7, 11, or rhS100P is observed.
Source	Monoclonal Rat IgG _{2B} Clone # 438709
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant mouse S100A4 Ala2-Lys101 Accession # P07091
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied 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
Western Blot	2 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. 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. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

S100A4 (also named Metastasin, Mts1 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 β 1 (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).

References:

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