



S-100 β chain (SH-B1): sc-58842

BACKGROUND

The family of EF-hand type Ca^{2+} -binding proteins includes calbindin (previously designated vitamin D-dependent Ca^{2+} -binding protein), S-100 α and β , calgranulins A (also designated MRP8), B (also designated MRP14) and C (S-100 like proteins), and the parvalbumin family members, including parvalbumin α and parvalbumin β (also designated oncomodulin). The S-100 protein is involved in the regulation of cellular processes such as cell cycle progression and differentiation. Research also indicates that the S-100 protein may function in the activation of Ca^{2+} induced Ca^{2+} release, inhibition of microtubule assembly and inhibition of protein kinase C mediated phosphorylation. Two S-100 subunits, sharing 60% sequence identity, have been described as S-100 α chain and S-100 β chain. Three S-100 dimeric forms have been characterized, differing in their subunit composition of either two α chains, two β chains or one α and one β chain. S-100 localizes to the cytoplasm and nuclei of astrocytes, Schwann's cells, ependymomas and astroglomas. S-100 is also detected in almost all benign naevi, malignant melanocytic tumours and in Langerhans cells in the skin. Calbindin, S-100 proteins and parvalbumin proteins are each expressed in neural tissues. In addition, S-100 α and β are present in a variety of other tissues, and calbindin is present in intestine and kidney.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: S100B (human) mapping to 21q22.3; S100b (mouse) mapping to 10 C1.

SOURCE

S-100 β chain (SH-B1) is a mouse monoclonal antibody raised against purified S-100 β chain from brain tissue homogenate of cow origin.

PRODUCT

Each vial contains 500 μl ascites containing IgG₁ in PBS with < 0.1% sodium azide.

APPLICATIONS

S-100 β chain (SH-B1) is recommended for detection of S-100 β chain of human, rat and cow origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200); may cross-react with S-100 A (α/β) and S-100 B (β/β); non cross-reactive with S-100 AO (α/α) or other members of the EF-hand family such as calmodulin, parvalbumin, Calbindin 9DK and myosin light chain.

Suitable for use as control antibody for S-100 β chain siRNA (h): sc-43356.

Molecular Weight of S-100 β dimer: 21 kDa.

Molecular Weight of S-100 β chain: 10 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or C6 cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

For research use only, not for use in diagnostic procedures.