

S-100 β chain (C-20): sc-7851

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

1. Pfyffer, G.E., et al. 1987. Developmental and functional studies of parvalbumin and Calbindin D28K in hypothalamic neurons grown in serum-free medium. *J. Neurochem.* 49: 442-451.
2. Kagi, U., et al. 1988. Developmental appearance of the Ca^{2+} -binding proteins parvalbumin, Calbindin D28K, S-100 proteins and Calmodulin during testicular development in the rat. *Cell Tissue Res.* 252: 359-365.

CHROMOSOMAL LOCATION

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

SOURCE

S-100 β chain (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of S-100 β chain of human origin.

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7851 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

S-100 β chain (C-20) is recommended for detection of S-100 protein β chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

S-100 β chain (C-20) is also recommended for detection of S-100 protein β chain in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for S-100 β chain siRNA (h): sc-43356, S-100 β chain siRNA (m): sc-43357, S-100 β chain shRNA Plasmid (h): sc-43356-SH, S-100 β chain shRNA Plasmid (m): sc-43357-SH, S-100 β chain shRNA (h) Lentiviral Particles: sc-43356-V and S-100 β chain shRNA (m) Lentiviral Particles: sc-43357-V.

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

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

Positive Controls: mouse cerebellum extract: sc-2403 or C6 whole cell lysate: sc-364373.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Le Poole, I.C., et al. 2008. Langerhans cells and dendritic cells are cytotoxic towards HPV16 E6 and E7 expressing target cells. *Cancer Immunol. Immunother.* 57: 789-797.
2. Signorile, P.G., et al. 2009. Rectovaginal septum endometriosis: an immunohistochemical analysis of 62 cases. *In Vivo* 23: 459-464.
3. Lü, L., et al. 2009. The difference in gliosis induced by β -amyloid and Tau treatments in astrocyte cultures derived from senescence accelerated and normal mouse strains. *Biogerontology* 10: 695-710.
4. Reuss, D.E., et al. 2013. Functional MHC Class II is upregulated in neurofibromin-deficient schwann cells. *J. Invest. Dermatol.* 133: 1372-1375.


 MONOS
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Try **S-100 β chain (C-3): sc-393919** or **S-100 β chain (9A11B9): sc-81709**, our highly recommended monoclonal alternatives to S-100 β chain (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see S-100 β chain (C-3): sc-393919.