SANTA CRUZ BIOTECHNOLOGY, INC.

S-100 β chain (H-56): sc-28533

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 astrogliomas. 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.

CHROMOSOMAL LOCATION

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

SOURCE

S-100 β chain (H-56) is a rabbit polyclonal antibody raised against amino acids 37-92 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.

APPLICATIONS

S-100 β chain (H-56) is recommended for detection of S-100 β chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 (H-56) is also recommended for detection of S-100 β chain in additional species, including equine, canine, bovine and porcine.

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.

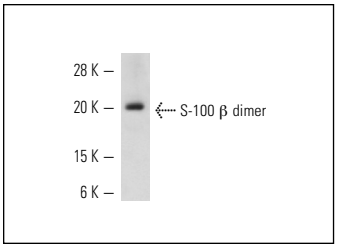
Molecular Weight of S-100 β chain: 10 kDa.

Positive Controls: C6 whole cell lysate: sc-364373.

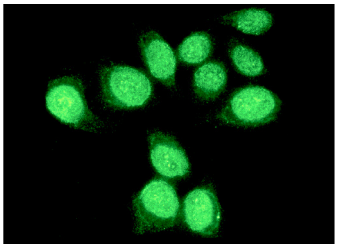
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



S-100 β chain (H-56): sc-28533. Western blot analysis of S-100 β chain expression in C6 whole cell lysate.



S-100 β chain (H-56): sc-28533. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. von Bauer, R., et al. 2013. CD166/ALCAM mediates proinflammatory effects of S100B in delayed type hypersensitivity. J. Immunol. 191: 369-377.
2. Shim, K.W., et al. 2013. Epigenetic modification after inhibition of IGF-1R signaling in human central nervous system atypical teratoid rhabdoid tumor (AT/RT). Childs Nerv. Syst. 29: 1245-1251.
3. Marinelli, S., et al. 2014. Effects of age-related loss of P/Q-type calcium channels in a mice model of peripheral nerve injury. Neurobiol. Aging 36: 352-364.

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.