SANTA CRUZ BIOTECHNOLOGY, INC.

S-100 β chain (19): sc-136061

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (19) is a mouse monoclonal antibody raised against amino acids 1-92 representing full length S-100 β chain of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

S-100 β chain (19) 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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 chain: 10 kDa.

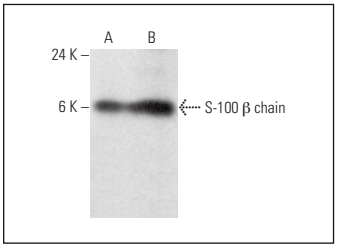
Molecular Weight of S-100 β chain dimer: 21 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, rat spinal cord extract: sc-395024 or SK-MEL-28 cell lysate: sc-2236.

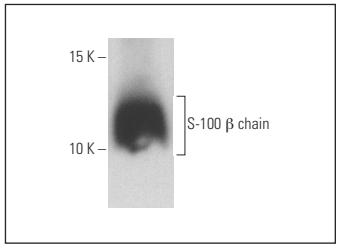
STORAGE

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

DATA



S-100 β chain (19): sc-136061. Western blot analysis of S-100 β chain expression in C6 whole cell lysate (**A**) and rat spinal cord tissue extract (**B**).



S-100 β chain (19): sc-136061. Western blot analysis of S-100 β chain expression in SK-MEL-28 whole cell lysate. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Cai, X.Y., et al. 2011. Association of increased S100B, S100A6 and S100P in serum levels with acute coronary syndrome and also with the severity of myocardial infarction in cardiac tissue of rat models with ischemia-reperfusion injury. Atherosclerosis 217: 536-542.
2. Sun, F., et al. 2014. Expression patterns of atrial natriuretic peptide and its receptors within the cochlear spiral ganglion of the postnatal rat. Hear. Res. 309: 103-112.
3. Wang, N., et al. 2017. Synchronized dual pulse gastric electrical stimulation improves gastric emptying and activates enteric glial cells via upregulation of GFAP and S100B with different courses of subdiaphragmatic vagotomy in rats. Mol. Med. Rep. 15: 3826-3832.
4. Wang, M., et al. 2019. Nongenetic optical modulation of neural stem cell proliferation and neuronal/glial differentiation. Biomaterials 225: 119539.
5. Anderson, Z.T., et al. 2021. A novel mouse model to evaluate neuropeptide Y-mediated melanocyte pathology. Exp. Dermatol. 30: 1800-1806.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **S-100 β chain (C-3): sc-393919** for S-100 β chain antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.