**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**


**CHROMOSOMAL LOCATION**

Genetic locus: S100A1 (human) mapping to 1q21.3; S100a1 (mouse) mapping to 3 F1.

**APPLICATIONS**

S-100 α chain (4c4.9) is recommended for detection of S-100 α 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

S-100 α chain (4c4.9) is also recommended for detection of S-100 α chain in additional species, including bovine.

Suitable for use as control antibody for S-100 α chain siRNA (h): sc-43354, S-100 α chain siRNA (m): sc-43355, S-100 α chain shRNA Plasmid (h): sc-43354-SH, S-100 α chain shRNA Plasmid (m): sc-43355-SH, S-100 α chain shRNA (h) Lentiviral Particles: sc-43354-V and S-100 α chain shRNA (m) Lentiviral Particles: sc-43355-V.

**DATA**

Molecular Weight of S-100 α chain: 11 kDa.

**SELECT PRODUCT CITATIONS**


**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.

**PROTOCOLS**

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