Product No. S-6797
Lot 046H4833

Monoclonal Anti-S100A2 (S100L)

Mouse Ascites Fluid
Clone SH-L1

Monoclonal Anti-S100A2 (S100L) (mouse IgG1 isotype) is derived from the SH-L1 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice. Ca^{2+}-binding proteins, from pig stomach tissue were used as immunogen. The isotype is determined using Sigma ImmunoType™ Kit (Sigma ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2). The product is provided as ascites fluid with 0.1% sodium azide (see MSDS)* as a preservative.

Specificity

Monoclonal Anti-S100A2 (S100L) recognizes an epitope located on S100A2 (formerly known as S100L). The antibody recognizes S100A2 in a Ca^{++} ion-dependent manner. It also reacts with native and denatured-reduced preparations in immunoprecipitation and immunoblottingand can be used in immunohistochemical techniques (frozen and formalin-fixed, paraffin-embedded sections). In immunocytochemical labeling of cultured Madin-Darby bovine kidney (MDBK) cells, the staining is confined to the nucleus and the cytoplasm, but is excluded from the nucleoli. Cross-reactivity has been observed with S100A2 of human, bovine, goat, pig, dog, cat, rat, frog and lizard. The product does not react with other members of the EF-hand family including calmodulin, parvalbumin, intestinal calcium-binding protein, S100A6 (calcyclin), caltropin, the α-chain of S-100 (i.e., in S-100a and S-100ao), or the β-chain (i.e., in S-100a and S-100b).

Description

S-100[2], is a set of small, thermolabile, highly acidic 10-20 kD dimer proteins that are widely distributed in different tissues. The S-100 family consists of at least 10 members with a cell-type-specific expression pattern. Although there is slight variation in the primary structure in different species, S-100 molecules are markedly conserved in the amino acid sequence. S-100 can be grouped with other calcium binding proteins, to which it has a significant sequence homology, particularly around the calcium-binding domain, such as calmodulin, parvalbumin, intestinal calcium-binding protein, myosin light chain and troponin-C. It is a calcium-modulated protein,[3] that binds calcium and zinc ions reversibly at physiologic pH and ionic strength, followed by a conformational change in the molecule.[4] S-100 is considered to be a cell-growth regulator, but other functions have been suggested, e.g., increasing the membrane permeability to cations under physiologic conditions, stimulation of nucleolar RNA polymerase activity, interaction with the tumor suppressor protein p53 and as a carrier of proteins and free fatty acids in adipocytes. The most extensively studied protein of the S-100 family is brain S-100, which appears as homo- or heterodimers of α- and β-subunits.[5] Dimeric combinations of the two chains form the three most known subtypes of S-100; S-100ao (αα), S-100a (αβ) and S-100b (ββ), that appear in certain cells and tissues.[6] Additional known members are S100A2 (also called S100L), which was first isolated from bovine lung,[7] and S100P, isolated from human placenta.[8] S100A2 has been shown to possess 43-47% homology with S-100α, S-100β and Calcyclin.[7] It is expressed at high levels in kidney and lung, intermediate levels in muscle and low levels in brain and intestine. High levels of S100A2 are found also in the MDBK (Madin-Darby bovine kidney) cell line, and in human glioma. Monoclonal antibody reacting specifically against S100A2 (S100L) is a useful tool in the study of the functions and intracellular interactions of the S100A2 molecule.

Uses

Monoclonal Anti-S100A2 (S100L) may be used for the detection and localization of S100A2 using various immunochemical assays including ELISA, immunoblotting, immunoprecipitation and immunohistology.

Titer: 1:1,000

The antibody titer was determined by indirect immunofluorescence staining of cultured Madin-Darby bovine kidney (MDBK) cells.

In order to obtain best results, it is recommended that each user determine the optimal working dilution for individual applications by titration assay.

Storage

For continuous use, store at 2-8°C. For extended storage freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

* Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

References

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