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ProductInformation

MONOCLONAL ANTI-S100A6 (CALCYCLIN)
Clone CACY-100
Mouse Ascites Fluid

Product Number **S 5049**

Product Description

Monoclonal Anti-S100A6 (Calcyclin) (mouse IgG1 isotype) is derived from the CACY-100 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Calcium-binding proteins from pig stomach tissue were used as the immunogen.[1] The isotype is determined using ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

S-100 is a set of small, thermolabile, highly acidic dimer proteins with a molecular weight rante of 10-20 kDa widely distributed in different tissues.[2] The S-100 family consists of at least 10 members with a cell-type-specific expression pattern. Although there is a slight variation in the primary structure in different species, S-100 molecules are markedly conserved in their amino acid sequence. S-100 proteins can be grouped with other calcium binding proteins, to which they have a significant sequence homology, particularly around the calcium-binding domain. These include calmodulin, parvalbumin, intestinal calcium-binding protein, myosin light chain, and troponin-C. S-100 proteins are calcium-modulated proteins[3] that bind calcium and zinc ions reversibly at physiologic pH and ionic strength, followed by a conformational change in the molecule.[4] S-100 proteins are considered to be cell-growth regulators, but other functions have been suggested, such as increasing the membrane permeability to cations under physiologic conditions, stimulation of nucleolar RNA polymerase activity, interaction with the tumor suppressor protein p53, and carrying 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] S100P, isolated from human placenta;[8] and S100A6 (also called calcyclin, CACY, 2A9, PRA, 5B10),[9] isolated from various tissues. S100A6 has been shown to possess 43-47% homology with S-100α, S-100β, and S100A2 (S100L).[7] Monoclonal antibody reacting specifically against S-100A6 (Calcyclin) is a useful tool in the study of the functions and intracellular interactions of the S100A6 molecule.

Reagents

The product is provided as ascites fluid with 0.1% sodium azide as a preservative.

Precautions and Disclaimer

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 hazards and safe handling practices.

Storage/Stability

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.

Product Profile

Monoclonal Anti-S100A6 (Calcyclin) recognizes an epitope located on S100A6 (Calcyclin is the old terminology). The antibody recognizes S100A6 in a Ca^{2+} ion dependent manner. It is also reactive with native and denatured-reduced preparations applying immunoprecipitation and immunoblotting, respectively, and can be used in immunohistology with frozen or formalin-fixed, paraffin-embedded sections. In immuno-cytochemical labeling of cultured pig kidney cell line (LLC-PK1), the staining is confined to the nucleus and the cytoplasm, but is excluded from the nucleoli. Strong labeling of nuclei is seen throughout different tissues when the product is used in immunohistology techniques. Cross-reactivity has been observed with S100A6 of human, bovine, goat, pig, rabbit, and rat. The product does not react with other members of the EF-hand family such as calmodulin, parvalbumin,

intestinal calcium-binding protein, S100A2 (S100L), caltropin, the α chain of S-100 (in S-100a and S-100ao), or the β chain (in S-100a and S-100b).

A working dilution of at least 1:4,000 was determined by indirect immunofluorescent staining of bovine tongue frozen sections.

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

References

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