



Product No. C-0297
MONOCLONAL ANTI-CALDESMON

Mouse Ascites Fluid
Clone C21

Lot 70H4807

Monoclonal anti-Caldesmon (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Purified chicken gizzard caldesmon was used as the immunogen. The isotype is determined by a double diffusion assay using immunoglobulin and subclass specific antisera. The product is provided as ascites fluid with 0.1% sodium azide (see MSDS)* as a preservative.

Specificity

Using immunoblot techniques Monoclonal anti-Caldesmon localizes the high molecular weight form of caldesmon in pig stomach, chicken and turkey gizzard, and the low molecular weight non-muscle caldesmon in gerbil fibroma cells (CCL-146), normal rat kidney cells (NRK), human EJ and Hut-11 cells and chicken embryo fibroblast cells. In vitro studies on the effect of the antibody on the binding of Ca^{2+} /Calmodulin to caldesmon and peptide mapping analysis show that the antibody is directed to an epitope near the carboxy-terminus Ca^{2+} /Calmodulin and F-actin binding site of caldesmon. In an ELISA, the antibody is able to inhibit about 80% of caldesmon binding to Ca^{2+} /Calmodulin, whereas the addition of Ca^{2+} /Calmodulin inhibits about 90% of caldesmon binding to coated Ca^{2+} /Calmodulin. The binding of caldesmon to coated Ca^{2+} /Calmodulin appears to be Ca^{2+} dependent in this ELISA. Monoclonal anti-Caldesmon also effectively inhibits the binding of caldesmon to F-actin. Immunofluorescence microscopy on cultured gizzard cells showed strong stress fiber and membrane ruffle staining, while showing only slight staining on stress fiber and membrane ruffle of cultured chicken embryo fibroblasts.

Working Dilution: 1:10,000

The antibody titer was determined in an ELISA

Product Information

with turkey gizzard or pig stomach caldesmon coated at 10 μ g/ml on polyvinyl microtiter plates.

In order to obtain best results it is recommended that each individual user determine their optimum working dilution by titration assay.

Description

Caldesmon is an actin interacting and calmodulin binding protein found in smooth muscle and other cell types. Caldesmon occurs in both a high molecular weight (120-150 KD) and a low molecular weight (60-80KD) form, depending on the tissue in which it is located. Caldesmon plays a major role in the regulation of smooth muscle and non-muscle contractile events.

Uses

Monoclonal anti-Caldesmon may be used for the study of the involvement of caldesmon in contraction, cell movement, cell morphology, exocytosis and endocytosis. Due to this antibody's epitope specificity for the Ca^{2+} /Calmodulin binding site, it is also useful for studies of Caldesmon/ Ca^{2+} -Calmodulin interactions.

Storage

For continuous use, store at 0-5 $^{\circ}$ C. For extended storage, solution may be frozen in working aliquots. Repeated freezing and thawing is **not** recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

*Due to the sodium azide content a material safety data 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.

SIGMA warrants that its products conform to the information contained in this and other Sigma publications. Purchaser must determine suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Issued 12/90