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Product Information

Monoclonal Anti-Talin Biotin Conjugate

Clone 8D4

Purified Mouse Immunoglobulin

Product No. **B 6059**

Product Description

Monoclonal Anti-Talin (mouse IgG1 isotype) is derived from the 8d4 hybridoma, produced by fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified chicken gizzard talin.¹ The conjugate is prepared by conjugation of the purified antibody isolated from ascites fluid to biotin ϵ -amino caproic acid-N-hydroxy-succinimide ester.

Monoclonal Anti-Talin Biotin Conjugate reacts specifically with mammalian and avian talin by various immunochemical techniques including immunocytochemistry and immunohistochemistry. The conjugate stains focal adhesions, membrane ruffles, and ventral streaks in methanol/acetone fixed cultured fibroblasts.

Talin,^{2,3} a multifunctional constituent of cell-substratum attachment sites, is a high molecular weight protein (225-235 kDa) found in variety of tissues and cell types.

It is localized at a subset of adherens junctions, specialized cell-cell and cell-matrix associations that are characterized by the presence of filamentous actin at the cytoplasmic face of the junctional complex. In cultured cells, talin is absent from cell-cell junctions and found predominantly at adhesion plaques and in fibrillar streaks underlying cell surface fibronectin. Talin interacts with at least two other proteins that are localized at adhesion plaques, vinculin⁴ and integrin.⁵ Talin and vinculin have been shown to interact with each other and both have been proposed to be involved in generating the transmembrane connection, between the extracellular matrix and the cytoskeleton, that occurs at adhesion plaques. Other molecules shown to interact with talin are: actin, focal adhesion kinase, phosphoinositides and layilin.⁷⁻¹⁰ Talin plays an essential role in focal adhesion assembly and integrin expression in undifferentiated stem cells as shown by targeted disruption of the talin gene.^{11,12}

At physiological ionic strength, talin is an elongate, flexible, monomeric protein with the ability to self-associate into dimers at higher protein concentrations. Talin can be modified post-translationally by phosphorylation and by proteolytic cleavage by calcium-dependent proteases, which cleave it to generate two prominent proteolytic fragments of 190-200 and 47 kDa. Mammalian, avian, amphibian, and fish talins exhibit some species-specific differences. Talin isolated from mammalian platelets have a slightly higher molecular weight (235 kDa) than chicken gizzard talin (225 kDa).

Reagent

Monoclonal Anti-Talin Biotin Conjugate is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% BSA and 15 mM sodium azide.

Antibody concentration: Approx. 2 mg/ml

Precautions and Disclaimer

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.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. 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. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

For immunofluorescence, a minimum working antibody dilution of 1:100 is recommended using bovine MDBK cultured cells and ExtrAvidin™ FITC conjugate.

In order to obtain the best results in various techniques and preparations, it is recommended that each individual user determine their optimum working dilutions by titration.

References

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