Technical Data Sheet

Purified Mouse Anti-α-Actinin

Product Information

Material Number: 612576
Size: 50 µg
Concentration: 250 µg/ml
Clone: 23/α-Actinin
Immunogen: Human α-Actinin aa. 629-825
Isotype: Mouse IgG1
Reactivity: QC Testing: Human
Tested in Development: Chicken, Dog, Mouse, Rat
Target MW: 104 kDa
Storage Buffer: Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

α-Actinin is a member of a large family of actin-cross-linking proteins that includes fimbrin, dystrophin, and spectrin. α-Actinins form homodimers composed of two polypeptide subunits arranged in an antiparallel orientation. The structure of α-Actinin 1 includes an N-terminal actin-binding domain (ABD), four spectrin-like repeats, and two C-terminal EF hand motifs. A second smooth muscle isoform of α-Actinin 1 contains a single EF hand motif and is insensitive to calcium. Other homologous isoforms of α-Actinin include α-Actinin 4 cloned from a tumor cell line, and two skeletal muscle isoforms, α-Actinin 2 and 3. In non-muscle cells α-Actinin colocalizes with actin and stabilizes the actin filament web. The localization of α-Actinin in focal adhesion plaques suggests that it might serve to anchor the network of actin filaments to the plasma membrane. Interestingly, Focal adhesion kinase (FAK) can phosphorylate α-Actinin at Tyr-12 and this may reduce its binding capacity for actin filaments. α-Actinin interacts with several cytoskeletal proteins in addition to actin, including vinculin, zyxin, palladin, and CLP-36. Thus, α-Actinin may be critical for mediating the interaction between actin filaments and various cytoskeletal proteins.


Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

Application Notes

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<thead>
<tr>
<th>Application</th>
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<tbody>
<tr>
<td>Western blot</td>
<td>Routinely Tested</td>
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<tr>
<td>Immunofluorescence</td>
<td>Not Recommended</td>
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</tbody>
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Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to wwwbdbiosciencescompharmingenprotocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before
discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Izaguirre G, Aguirre L, Hu YP, et al. The cytoskeletal/non-muscle isoform of alpha-actinin is phosphorylated on its actin-binding domain by the focal adhesion
Youssoufiian H, McAfee M, Kwiatkowski DJ. Cloning and chromosomal localization of the human cytoskeletal alpha-actinin gene reveals linkage to the