

Product Information

**Anti- α -Actinin (Sarcomeric) antibody,
Mouse monoclonal, clone EA-53**
purified from hybridoma cell culture

Catalog Number **A7732**

Product Description

Anti- α -Actinin (Sarcomeric) antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hybridoma EA-53 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified rabbit skeletal α -actinin (GeneID 100009544).¹ The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Anti- α -Actinin (Sarcomeric) antibody, Mouse monoclonal shows wide reactivity with human, bovine, pig, sheep, rabbit, goat, hamster, cat, rat, mouse, dog, chicken, lizard, snake, frog and fish α -actinin. It specifically recognizes α -skeletal muscle actinin and α -cardiac muscle actinin.² The antibody may be used in various immunochemical techniques including ELISA, immunoblotting (~100 kDa), immunocytochemistry, and immunohistochemistry.

α -Actinin is an actin-binding protein present in both muscle and non-muscle cells. It connects actin fibrils to the cytoplasmic tail of transmembrane receptors such as integrins, cadherins, EA-53 and ICAMs. α -Actinin dimerizes in an antiparallel fashion via interaction of the central rod domains. Four isoforms are found in human and mice. α -Actinin-1 is ubiquitously expressed and located primarily in focal adhesions, whereas α -actinin-4 is present in certain membrane ruffles and seems to play a role in endocytosis and tumor cell motility.³ Muscle-specific α -actinin-2 and α -actinin-3 crosslink actin filaments in the region of Z discs that define the muscle sarcomers in striated muscles.⁴ In smooth muscle, α -actinin is detected predominantly in dense bodies and plaques, which are characteristic of that tissue. Immunofluorescent labeling of a large variety of cells with Anti- α -Actinin reveals an extensive association of the proteins with the actin-containing stress fibers and, in particular, with their membrane-bound termini.⁵ In *Drosophila*, α -actinin-null mutations are lethal and are characterized by defects in muscle structure and function. *In vitro* inactivation of α -actinin in 3T3 cells demonstrated that α -actinin is essential for the integrin-cytoskeleton linkage in focal adhesion.⁶

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet 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 at -20 °C in working aliquots. Repeated freezing and thawing, or 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

Immunoblotting: a working concentration of 2-4 μ g/mL is recommended using rat skeletal muscle extract.

Immunohistochemistry: a working concentration of 10-20 μ g/mL was determined using sections of human, or animal tongue, formalin-fixed, paraffin-embedded and protease-digested.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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2. Goncharova, E., et al., *Development*, **114**, 173-183 (1992).
3. Brakebusch, C., and Fassler, R., *EMBO J.*, **22**, 2324-2333 (2003).
4. Beggs, A. H., et al., *J. Biol. Chem.*, **267**, 9281-9288 (1992).

5. Lazarides, E., and Burridge, K., *Cell*, **6**, 289-298 (1975).

6. Rajfur, Z., et al., *Nat. Cell Biol.*, **4**, 286-293 (2002).

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