

Product Information

Monoclonal Anti-Actin, muscle specific clone HHF-35

produced in mouse, purified immunoglobulin

Catalog Number **SAB4200287**

Product Description

Monoclonal Anti-Actin, muscle specific (mouse IgG1 isotype) is derived from the hybridoma HHF-35 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with SDS-extracted protein fraction of human myocardium.¹ The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Actin, Muscle specific recognizes human, monkey, bovine, hamster, dog, chicken, rat and mouse Actin. It specifically reacts with skeletal, cardiac and smooth muscle actin, as well as pericytes and myoepithelial cells. The antibody may be used in various immunochemical techniques including, immunoblotting (~ 42 kDa), immunocytochemistry and immunohistochemistry.^{1,2}

The two major cytoskeletal proteins implicated in cell motility are actin and myosin. Actin and myosin are constituents of many cells types and are involved in a myriad of cellular processes including locomotion, secretion, cytoplasmic streaming, phagocytosis, and cytokinesis. Although actin is one of the most conserved eukaryotic proteins, it is expressed in mammals and birds as six isoforms characterized by electrophoretic mobility and amino acid sequence analysis.³ Four of the six represent differentiation markers of muscle tissues. The other two are found in practically all cells. Actin isoforms show >90% overall sequence homology, but only 50-60% homology in the first 18 N-terminal residues.⁴ It has been shown that the relative proportion of actin isoforms is different in smooth muscle of different organs, and changes within the same population of smooth muscle cells during development, pathological situations and different culture conditions. Actin isoforms in cells of various species and tissue origin are very similar in their immunological and physical properties. Antibodies to muscle actin may be useful as a marker for muscle and muscle derived cells.

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 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 0.1-0.2 µg/mL is recommended using A10 cell extracts.

Immunocytochemistry: a working concentration of 2-4 µg/mL is recommended using A10 cells.

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

References

1. Tsukada, T., et al., *Am. J. Pathol.*, **126**, 51-60 (1987).
2. Charbord, P., et al., *Blood*, **5**, 1138-1142 (1985).
3. Perrin, B.J., and Ervasti, J.M., *Cytoskel.*, **67**, 530-634 (2010).
4. Lessard, J., *Cell Motil. Cytoskel.*, **10**, 349-362 (1988).

GG,RC.KAA,PHC 05/11-1

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