

Product Information

Monoclonal Anti-Actin, clone MM2/193

produced in mouse, purified immunoglobulin

Catalog Number **SAB4200248**

Product Description

Monoclonal Anti-Actin (mouse IgM isotype) is derived from the hybridoma MM2/193 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with human platelet membranes. The isotype is determined by ELISA 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 recognizes human, monkey, dog, rat and mouse actin (not tested in other species). The antibody may be used in several immunochemical techniques including immunoblotting (~42 kDa).

The two major cytoskeletal proteins implicated in cell motility are actin and myosin. Actin and myosin are constituents of many cell 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 with at least six isoforms characterized by electrophoresis and amino acid sequence analysis.¹ Four of them represent differentiation markers of muscle tissues and two are found in nearly all cells. There are three α -actins (skeletal, cardiac, and smooth muscle), one β -actin (β -non-muscle), and two γ -actins (γ -smooth muscle and γ -non-muscle). Actin isoforms show >90% overall sequence homology, but only 50-60% homology in their 18 N-terminal residues.² The actin in cells of various species and tissues are very similar in their immunological and physical properties.

Blood platelet contains two forms of actin, β and γ which are present at a 5:1 ratio in the purified actin. Interestingly, this actin resembles sarcomeric actin in its polymerization properties, CD spectra and ability to activate myosin Mg^{2+} -ATPase.³

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

Store at -20°C . For continuous use, store at $2-8^{\circ}\text{C}$ 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 1-2 $\mu\text{g/mL}$ is recommended using HeLa cell extracts.

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

References

1. Perrin, B.J., and Ervasti, J.M., *Cytoskel.*, **67**, 530-634 (2010).
2. Lessard, J., *Cell Motil. Cytoskel.*, **10**, 349-362 (1988).
3. Landon, F., et al., *Eur. J. Biochem.*, **81**, 571-577 (1977).

GG,CS,KAA,PHC 02/11-1

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