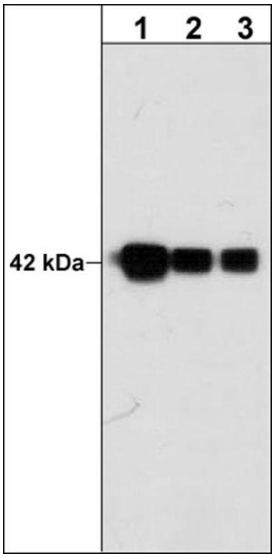
Actin (C-terminal region)

Mouse Monoclonal

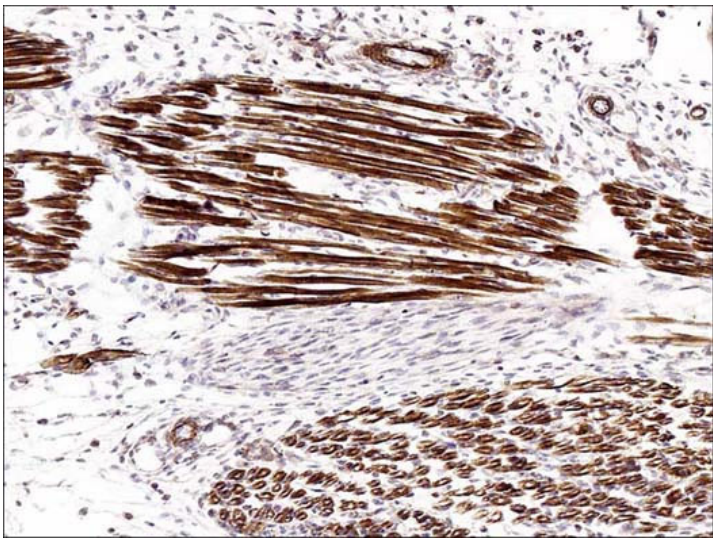
Cat. # AM2021
Size 100 µl

Background

Actin is a major cytoskeletal protein involved in diverse cellular functions including cell motility, adhesion, and morphology. Six different actin isoforms have been identified in vertebrates. There are four α isoforms: skeletal, cardiac, and two smooth muscle (enteric and aortic) actins, along with two cytoplasmic actins (β and γ). Actin exists in two principal forms, globular, monomeric (G) actin, and filamentous polymeric (F) actin. The assembly and disassembly of actin filaments, and also their organization into functional networks, is regulated by a variety of actin-binding proteins (ABPs). Phosphorylation may also be important for regulating actin assembly and interaction with ABPs. In Dictyostelium, phosphorylation of Tyr-53 occurs in response to cell stress and this phosphorylation may alter actin polymerization. In B cells, SHP-1 tyrosine dephosphorylation of actin leads to actin filament depolymerization following BCR stimulation.



Western blot analysis of mouse C2C12 cells probed with mouse monoclonal anti-Actin (C-terminal region) antibody at 1:1000 (lane 1), 1:2000 (lane 2), or 1:4000 (lane 3).



Formalin fixed, citric acid treated parafin sections of E18 mouse skeletal muscle. Sections were probed with anti-Actin (AM2021) then anti-Mouse:HRP before detection using DAB. (Images provided by Carl Hobbs and Dr. Pat Doherty at Wolfson Centre for Age-Related Diseases, King's College London).

Background References

Jungbluth, A. et al. (1995) FEBS Let. 375:87.
Baba, T. et al. (2003) J. Immunol. 170: 3762.
Winder, S.J. et al. (2005) J. Cell Sci. 118:651.
Liu, X. et al. (2006) Proc Nat Acad Sci U S A. 103(37):13694.

Product Citations

Barnes J et al. (2018) Mol Autism. 9:44.
ICC: human stem cells

Pritchard, AJ et al. (2014) PLoS One. 9(6):e99444
WB: mouse splenocytes

Dutta, P et al. (2014) J Neurochem. 130(3):360
WB: rat brain

Muirhead, G et al. (2014) J Mol Neurosci. 53(1):125
WB: rat brain

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Rev10/14/2019

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Immunogen

Uniprot ID: P60709

Clone (M202) was generated from a sequence corresponding to amino acids in the C-terminal region of human b-actin. This human actin sequence is highly conserved in most eukaryotic actin isoforms.

Buffer and Storage

Mouse monoclonal, protein G purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Applications

WB	1:1000
ELISA	1:2000
ICC	1:50
IHC	1:50

Species Reactivity

Hu, Rt, Ms, Ck

Isotype: IgG2a

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.
Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

This antibody detects a 42 kDa* protein corresponding to the molecular mass of Actin on SDS-PAGE immunoblots of human A431, SYF, and HUVEC cells, as well as mouse C2C12 cells.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.
"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

AP1651 Actin (N-terminal region) Rabbit Polyclonal

AP1671 Actin (Tyr-53), phospho-specific Rabbit Polyclonal

TM1541 β-Tubulin Mouse Monoclonal

TP1691 βIII-Tubulin (C-terminus) Rabbit Polyclonal

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