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#69758

α-Actinin (E7U1O) Mouse mAb

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Entrez-Gene ID #87
UniProt ID #P12814

New 06/18

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC	H, M, R, Mk	100 kDa	Mouse IgG1**
Endogenous			

Background: α-Actinin belongs to the spectrin family of cytoskeletal proteins. It was first recognized as an actin cross-linking protein, forming an antiparallel homodimer with an actin binding head at the amino terminus of each monomer. The α-actinin protein interacts with a large number of proteins involved in signaling to the cytoskeleton, including those involved in cellular adhesion, migration, and immune cell targeting (1). The interaction of α-actinin with intercellular adhesion molecule-5 (ICAM-5) helps to promote neurite outgrowth (2). In osteoblasts, interaction of α-actinin with integrins stabilizes focal adhesions and may protect cells from apoptosis (3). The cytoskeletal α-actinin isoforms 1 and 4 (ACTN1, ACTN4) are non-muscle proteins that are present in stress fibers, sites of adhesion and intercellular contacts, filopodia, and lamellipodia. The muscle isoforms 2 and 3 (ACTN2, ACTN3) localize to the Z-discs of striated muscle and to dense bodies and plaques in smooth muscle (1).

Background References:

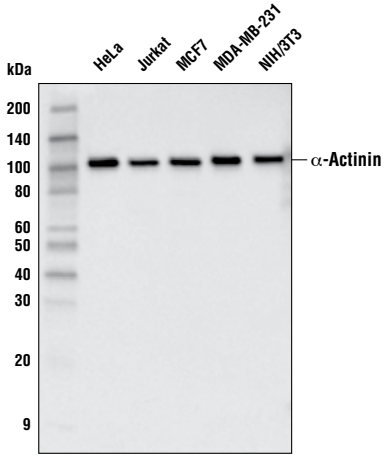
(1) Otey, C.A. and Carpen, O. (2004) *Cell Motil Cytoskeleton* 58, 104-11.

(2) Nyman-Huttunen, H. et al. (2006) *J Cell Sci* 119, 3057-66.

(3) Triplett, J.W. and Pavalko, F.M. (2006) *Am J Physiol Cell Physiol* 291, C909-21.

Specificity/Sensitivity: α-Actinin (E7U1O) Mouse mAb recognizes endogenous levels of total α-Actinin protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human α-Actinin protein.



Western blot analysis of extracts from various cell lines using α-Actinin (E7U1O) Mouse mAb.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-mouse secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (IF-IC)	1:200
Fixative:	4% Formaldehyde
Permeabilization:	0.3% Triton X-100

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

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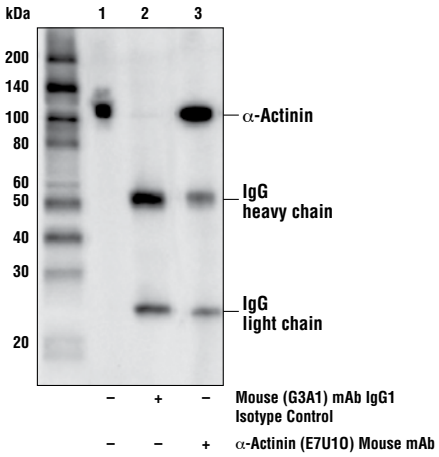
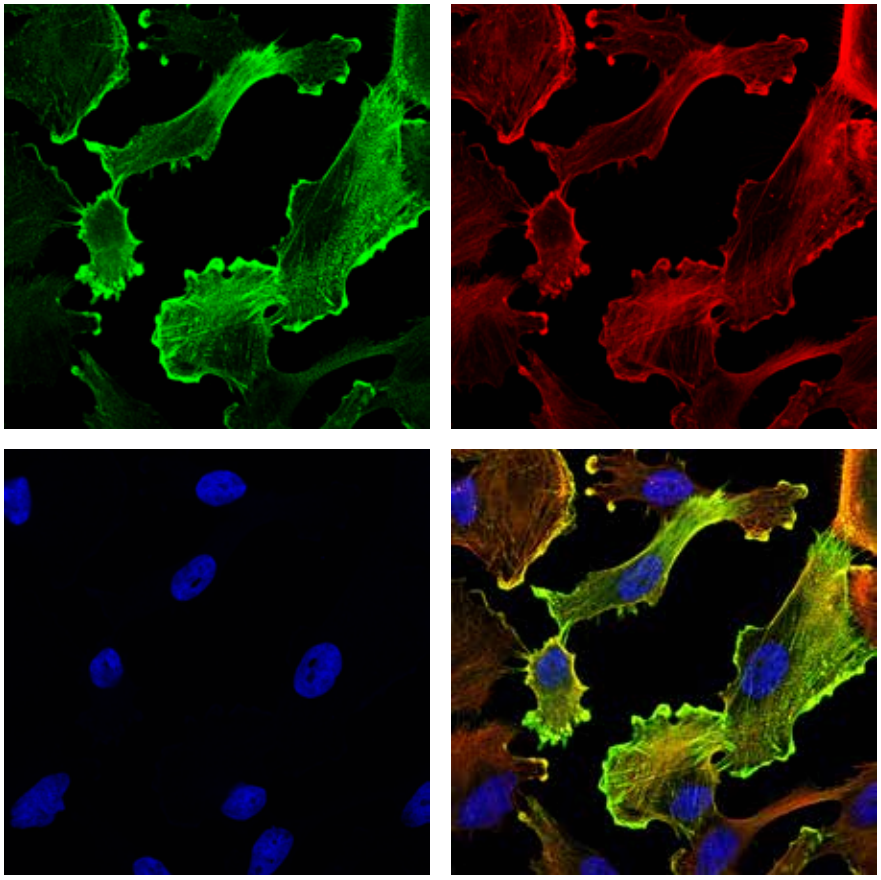
Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Immunoprecipitation of α-Actinin from Jurkat cells. Lane 1 is 10% input, lane 2 is Mouse (G3A1) mAb IgG1 Isotype Control #5415, and lane 3 is α-Actinin (E7U1O) Mouse mAb. Western blot was performed using α-Actinin (E7U1O) Mouse mAb. Anti-mouse IgG, HRP-linked Antibody #7076 was used as a secondary antibody.



Confocal immunofluorescent analysis of SNB-19 cells using α-Actinin (E7U1O) Mouse mAb (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054 (red). Samples were mounted in ProLong® Gold Antifade Reagent with DAPI #8961 (blue).