

# α-Actinin Antibody



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

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IF-IC Endogenous	H, M, R, Mk, Hm	100 kDa	Rabbit**

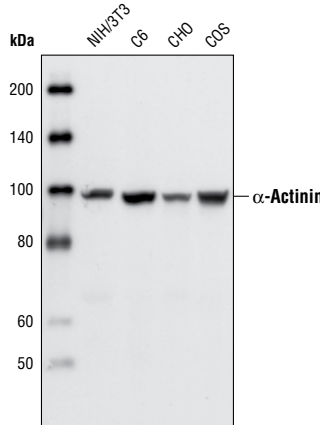
**Background:** α-Actinin belongs to the spectrin family of cytoskeletal proteins. It was first recognized as an actin cross-linking protein, forming an antiparallel homodimer with an actin binding head at the amino terminus of each monomer. The α-actinin protein interacts with a large number of proteins 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).

**Specificity/Sensitivity:** α-Actinin Antibody detects endogenous levels of total α-actinin-1 protein. Based on sequence homology, the antibody may cross-react with α-actinin isoforms 2 and 4.

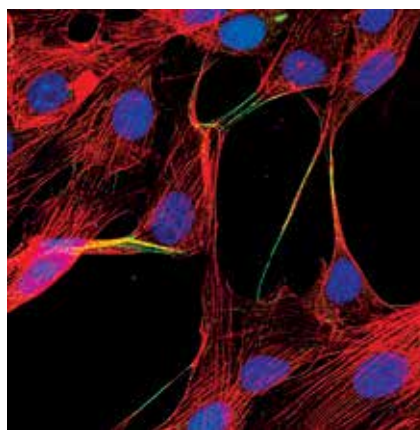
**Source/Purification:** Polyclonal antibodies are produced by immunizing rabbits with a synthetic peptide (KLH-coupled) corresponding to carboxy-terminal residues of human α-actinin-1.

**Background References:**

- (1) Otey, C.A. and Carpen, O. (2004) *Cell Motil. Cytoskeleton* 58, 104–111.
- (2) Nyman-Huttunen, H. et al. (2006) *J. Cell Sci.* 119, 3057–3066.
- (3) Triplett, J.W. and Pavalko, F.M. (2006) *Am. J. Physiol. Cell Physiol.* 291, C909–921.



Western blot analysis of extracts from NIH/3T3, C6, CHO and COS cells using α-Actinin Antibody.



Confocal immunofluorescent analysis of NIH/3T3 cells using α-Actinin Antibody (green). Actin filaments have been labeled with Alexa Fluor® 555 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Entrez-Gene ID #87  
UniProt ID #P12814

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

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

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

**Recommended Antibody Dilutions:**

Western blotting 1:1000  
Immunofluorescence (IF-IC) 1:25

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

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

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** 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.

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