

**Beta-Actin Antibody**  
**Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM1829B**

**Specification**

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**Beta-Actin Antibody - Product Information**

Application	WB, IF, IHC-P, FC, IHC,E
Primary Accession	<a href="#">P60709</a>
Other Accession	<a href="#">A2BDB0</a> , <a href="#">P63259</a> , <a href="#">P63260</a> , <a href="#">P63261</a> , <a href="#">Q5ZMQ2</a> , <a href="#">P63258</a> , <a href="#">P60711</a> , <a href="#">Q6QAO1</a> , <a href="#">P60710</a> , <a href="#">Q4R561</a> , <a href="#">P60706</a> , <a href="#">P60712</a> , <a href="#">P53505</a> , <a href="#">P60708</a> , <a href="#">P60713</a>
Reactivity Predicted	Human, Mouse, Rat Xenopus, Bovine, Chicken, Horse, Monkey, Pig, Sheep
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,Igk

**Beta-Actin Antibody - Additional Information**

**Gene ID** 60

**Other Names**

Actin, cytoplasmic 1, Beta-actin, Actin, cytoplasmic 1, N-terminally processed, ACTB

**Target/Specificity**

This ACTB Monoclonal antibody is generated from mouse immunized with ACTB recombinant protein.

**Dilution**

WB~~1:1000  
IF~~1:10~50  
IHC-P~~1:25  
FC~~1:25  
IHC~~1:50

**Format**

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Beta-Actin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Beta-Actin Antibody - Protein Information**

## Name ACTB

**Function** Actin is a highly conserved protein that polymerizes to produce filaments that form cross-linked networks in the cytoplasm of cells (PubMed:[25255767](#), PubMed:[29581253](#)). Actin exists in both monomeric (G-actin) and polymeric (F-actin) forms, both forms playing key functions, such as cell motility and contraction (PubMed:[29581253](#)). In addition to their role in the cytoplasmic cytoskeleton, G- and F- actin also localize in the nucleus, and regulate gene transcription and motility and repair of damaged DNA (PubMed:[29925947](#)). Part of the ACTR1A/ACTB filament around which the dynactin complex is built. The dynactin multiprotein complex activates the molecular motor dynein for ultra-processive transport along microtubules (By similarity).

## Cellular Location

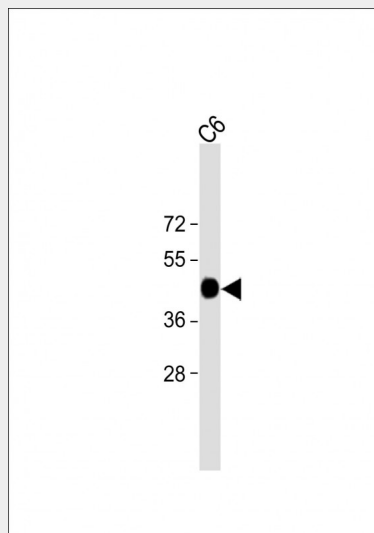
Cytoplasm, cytoskeleton. Nucleus Note=Localized in cytoplasmic mRNP granules containing untranslated mRNAs.

## Beta-Actin Antibody - Protocols

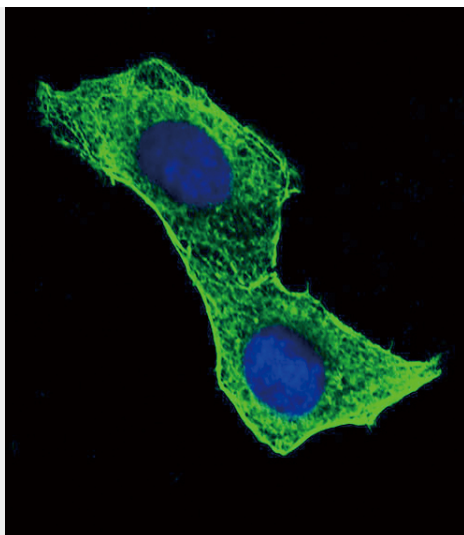
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

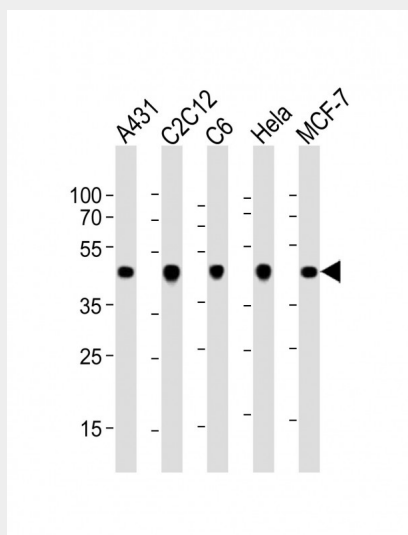
## Beta-Actin Antibody - Images



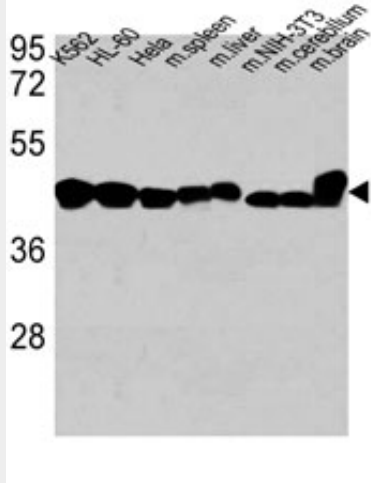
All lanes : Anti-ACTB Antibody at 1:2000 dilution + C6 cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 41 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



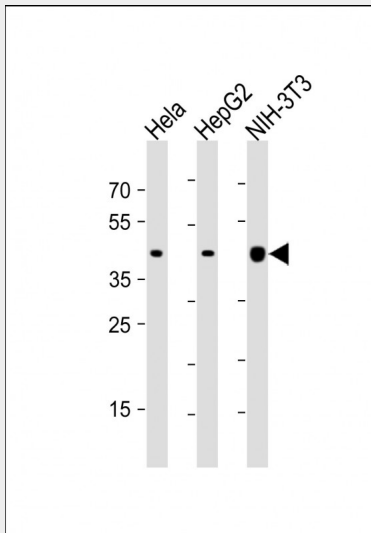
Confocal immunofluorescent analysis of ACTB Antibody (Cat#AM1829b) with HeLa cell followed by Alexa Fluor® 488-conjugated goat anti-mouse IgG (green). DAPI was used to stain the cell nuclear (blue).



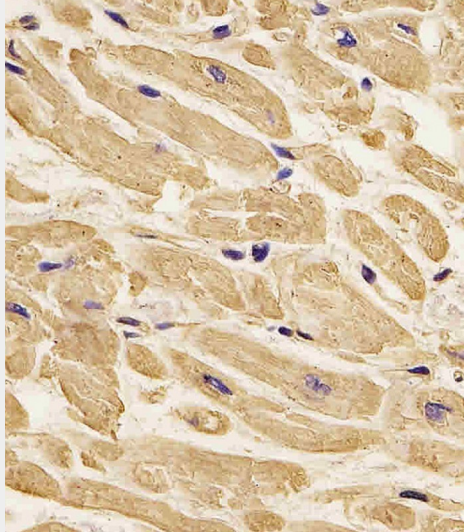
All lanes : Anti-ACTB Antibody at 1:1000 dilution Lane 1: A431 whole cell lysate Lane 2: C2C12 whole cell lysate Lane 3: C6 whole cell lysate Lane 4: HeLa whole cell lysate Lane 5: MCF-7 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 42 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of anti-ACTB Antibody (Cat. #AM1829b) in K562, HL-60, HeLa cell line, mouse spleen, mouse liver tissue lysates, mouse NIH-3T3 cell line lysate and mouse cerebellum, mouse brain tissue lysates (35µg/lane). ACTB (arrow) was detected using the purified Mab.



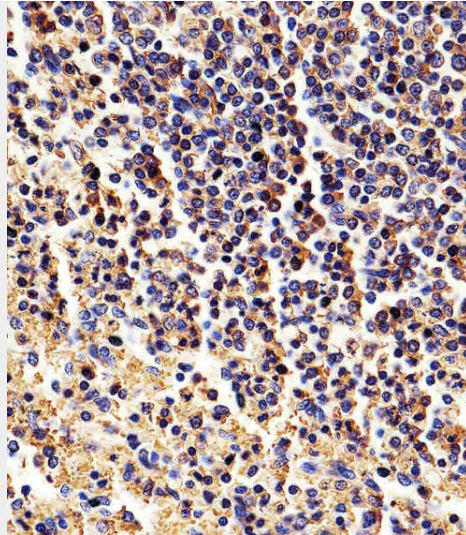
All lanes : Anti-ACTB Antibody at 1:1000 dilution Lane 1: HeLa whole cell lysate Lane 2: HepG2 whole cell lysate Lane 3: NIH-3T3 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 42 kDa Blocking/Dilution buffer: 5% NFDm/TBST.



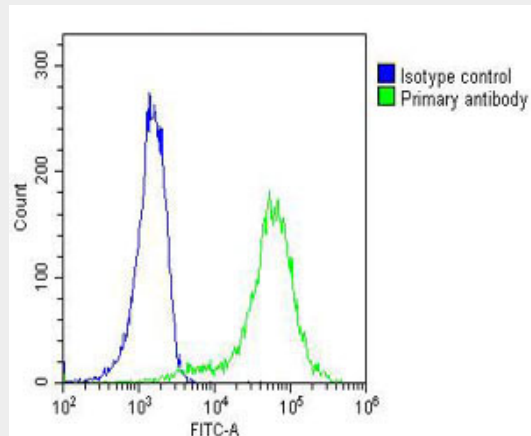
AM1829b staining ACTB in human heart tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hour at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



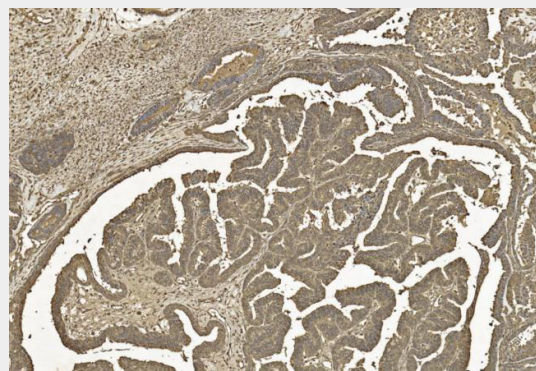
Immunohistochemical analysis of paraffin-embedded H.skeletal muscle section using Beta-Actin Antibody(Cat#AM1829b). AM1829b was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded H.spleen section using Beta-Actin Antibody(Cat#AM1829b). AM1829b was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-Mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Overlay histogram showing A431 cells stained with AM1829b(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AM1829b, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OJ192088) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG1 (1µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >10, 000 events was performed.



Immunohistochemical analysis of paraffin-embedded Human Ovarian cancer section using Pink1(Cat#am1829b). am1829b was diluted at 1:50 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

### **Beta-Actin Antibody - Background**

This gene encodes one of six different actin proteins. Actins are highly conserved proteins that are involved in cell motility, structure, and integrity. This actin is a major constituent of the contractile apparatus and one of the two nonmuscle cytoskeletal actins.

### **Beta-Actin Antibody - References**

Sex-specific proteome differences in the anterior cingulate cortex of schizophrenia. Martins-de-Souza D, et al. J Psychiatr Res, 2010 Apr 8. PMID 20381070. Identification of a hormone-regulated dynamic nuclear actin network associated with estrogen receptor alpha in human breast cancer cell nuclei. Ambrosino C, et al. Mol Cell Proteomics, 2010 Jun. PMID 20308691. Contribution of rearranged actin structures to the spread of Ectromelia virus infection in vitro. Boratynska A, et al. Acta Virol, 2010. PMID 20201613. Molecular mechanisms underlying nucleocytoplasmic shuttling of actinin-4. Kumeta M, et al. J Cell Sci, 2010 Apr 1. PMID 20197409. Tyrosine phosphorylation of cofilin at Y68 by v-Src leads to its degradation through ubiquitin-proteasome pathway. Yoo Y, et al. Oncogene, 2010 Jan 14. PMID 19802004.

### **Beta-Actin Antibody - Citations**

- [β-catenin links cell seeding density to global gene expression during mouse embryonic stem cell differentiation.](#)
- [Aspirin potentiates celecoxib-induced growth inhibition and apoptosis in human non-small cell lung cancer by targeting GRP78 activity.](#)
- [Voiding Dysfunction in Old Male Rats Associated With Enlarged Prostate and Irregular Afferent-Triggered Reflex Responses.](#)
- [Mammalian Atg8 proteins and the autophagy factor IRGM control mTOR and TFEB at a regulatory node critical for responses to pathogens.](#)
- [Allopregnanolone restores the tyrosine hydroxylase-positive neurons and motor performance in a 6-OHDA-injected mouse model.](#)
- [ASK1 inhibition reduces cell death and hepatic fibrosis in an Nlrp3 mutant liver injury model.](#)
- [Allopregnanolone Modulates GABAAR-Dependent CaMKIIδ3 and BDNF to Protect SH-SY5Y Cells Against 6-OHDA-Induced Damage.](#)
- [Innovative mouse model mimicking human-like features of spinal cord injury: efficacy of Docosahexaenoic acid on acute and chronic phases.](#)
- [Precise targeting of POLR2A as a therapeutic strategy for human triple negative breast cancer.](#)
- [Yap1 safeguards mouse embryonic stem cells from excessive apoptosis during differentiation.](#)
- [Huaier suppresses proliferative and metastatic potential of prostate cancer PC3 cells via downregulation of Lamin B1 and induction of autophagy.](#)
- [CD133 Promotes Adhesion to the Ovarian Cancer Metastatic Niche.](#)
- [Stk33 is required for spermatid differentiation and male fertility in mice.](#)
- [Induction of miR-155 after Brain Injury Promotes Type 1 Interferon and has a Neuroprotective Effect.](#)
- [Isoprenylcysteine carboxylmethyltransferase is critical for malignant transformation and tumor maintenance by all RAS isoforms.](#)
- [Berberine-induced Inactivation of Signal Transducer and Activator of Transcription 5 Signaling Promotes Male-specific Expression of a Bile-acid Uptake Transporter.](#)
- [Activation of GR but not PXR by Dexamethasone Attenuated Acetaminophen Hepatotoxicities via Fgf21 Induction.](#)
- [Localized inhibition of P2X7R at the spinal cord injury site improves neurogenic bladder dysfunction by decreasing urothelial P2X3R expression in rats.](#)
- [Reduced Glutamate Release in Adult BTBR Mouse Model of Autism Spectrum Disorder.](#)

- [CYLD Promotes TNF- \$\alpha\$ -Induced Cell Necrosis Mediated by RIP-1 in Human Lung Cancer Cells.](#)
- [Abnormal Accumulation of Desmin in Gastrocnemius Myofibers of Patients with Peripheral Artery Disease: Associations with Altered Myofiber Morphology and Density, Mitochondrial Dysfunction and Impaired Limb Function.](#)
- [Androgen receptor silences thioredoxin-interacting protein and competitively inhibits glucocorticoid receptor-mediated apoptosis in pancreatic  \$\beta\$ -cells.](#)
- [Functional analyses of the three simian hemorrhagic Fever virus nonstructural protein 1 papain-like proteases.](#)
- [Addiction to multiple oncogenes can be exploited to prevent the emergence of therapeutic resistance.](#)
- [Evidence for a novel antioxidant function and isoform-specific regulation of the human p66Shc gene.](#)