

# Beta-Actin Antibody

Mouse Monoclonal Antibody (Mab)

Catalog # AM1829B

## Product Information

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<b>Application</b>	WB, IHC-P, IF, FC, E
<b>Primary Accession</b>	<a href="#">P60709</a>
<b>Other Accession</b>	<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="#">Q6QAAQ1</a> , <a href="#">P60710</a> , <a href="#">Q4R561</a> , <a href="#">P60706</a> , <a href="#">P60712</a> , <a href="#">P53505</a>
<b>Reactivity</b>	Human, Mouse, Rat
<b>Predicted</b>	Rat, Monkey, Pig, Chicken, Bovine, Xenopus
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Isotype</b>	IgG1,Igk
<b>Clone Names</b>	137CT26.1.1
<b>Calculated MW</b>	41737

## Additional Information

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<b>Gene ID</b>	60
<b>Other Names</b>	Actin, cytoplasmic 1, Beta-actin, Actin, cytoplasmic 1, N-terminally processed, ACTB
<b>Target/Specificity</b>	This ACTB Monoclonal antibody is generated from mouse immunized with ACTB recombinant protein.
<b>Dilution</b>	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 FC~~1:25 E~~Use at an assay dependent concentration.
<b>Format</b>	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.
<b>Storage</b>	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.
<b>Precautions</b>	Beta-Actin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	ACTB
<b>Function</b>	Actin is a highly conserved protein that polymerizes to produce filaments that form cross-linked networks in the cytoplasm of cells (PubMed: <a href="#">25255767</a> ,

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](#)). Plays a role in the assembly of the gamma-tubulin ring complex (gTuRC), which regulates the minus-end nucleation of alpha-beta tubulin heterodimers that grow into microtubule protofilaments (PubMed:[39321809](#), PubMed:[38609661](#)). Part of the ACTR1A/ACTB filament around which the dynactin complex is built (By similarity). 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.

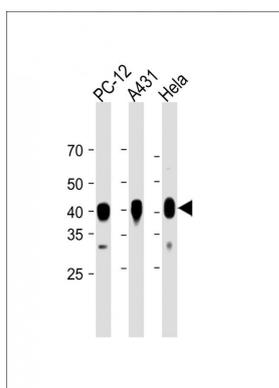
## Background

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.

## References

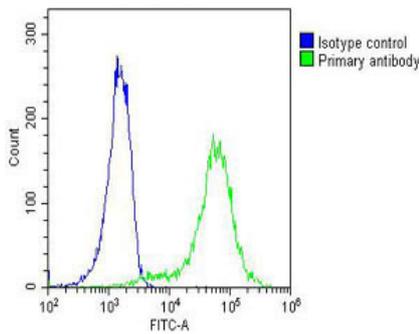
Sex-specific proteome differences in the anterior cingulate cortex of schizophrenia. Martins-de-Souza D, et al. *J Psychiatr Res*, 2010 Apr 8. PMID 20381070. Identification of a hormone-regulated dynamic nuclear actin network associated with estrogen receptor alpha in human breast cancer cell nuclei. 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.

## Images



All lanes: Anti-ACTB Antibody at 1:1000 dilution Lane 1: PC-12 whole cell lysate Lane 2: A431 whole cell lysate Lane 3: HeLa whole cell lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary: Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Observed band size: 42 KDa Blocking/Dilution buffer: 5% NFDN/TBST.

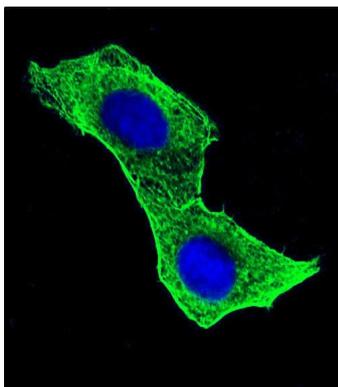
Overlay histogram showing A431 cells stained with AM1829b(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the 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 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.



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).

## 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](#)
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- [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.](#)

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