

# Beta-actin Antibody

Purified Mouse Monoclonal Antibody (Mab)  
Catalog # AM1021B

## Product Information

---

<b>Application</b>	WB, IHC-P, E
<b>Primary Accession</b>	<a href="#">P60709</a>
<b>Reactivity</b>	Human, Mouse, Rat
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Isotype</b>	IgG
<b>Clone Names</b>	8H10D10
<b>Calculated MW</b>	41737
<b>Antigen Region</b>	Unknown

## Additional Information

---

<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>	ACTB recombinant protein is used to produce this monoclonal antibody.
<b>Dilution</b>	WB~~1:2000~10000 IHC-P~~1:100~500 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

---

<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: <a href="#">29581253</a> ). Actin exists in both monomeric (G-actin) and polymeric (F-actin) forms, both forms playing key functions, such as cell motility and contraction (PubMed: <a href="#">29581253</a> ). 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.

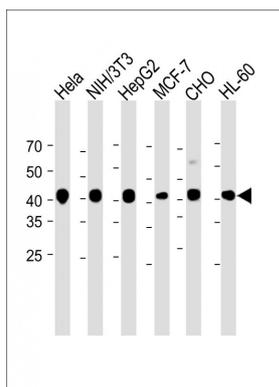
## Background

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.

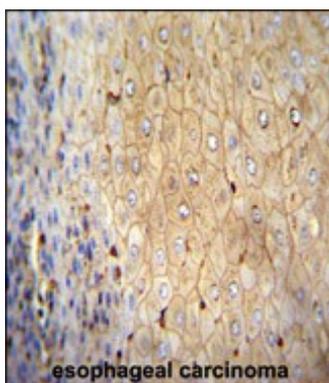
## References

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-Beta-actin Antibody at 1:1000 dilution Lane 1: HeLa whole cell lysate Lane 2: NIH/3T3 whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: MCF-7 whole cell lysate Lane 5: CHO whole cell lysate Lane 6: HL-60 whole cell lysate Lysates/proteins at 20 µg 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% NFDm/TBST.



Immunohistochemical analysis of paraffin-embedded H. spleen section using Beta-actin Antibody(Cat#AM1021b). AM1021b 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.

## Citations

---

- [AMPK activator C24 inhibits hepatic lipogenesis and ameliorates dyslipidemia in HFHC diet-induced animal models.](#)
- [Fraxinellone alleviates kidney fibrosis by inhibiting CUG-binding protein 1-mediated fibroblast activation](#)
- [Varicella zoster virus glycoprotein E facilitates PINK1/Parkin-mediated mitophagy to evade STING and MAVS-mediated antiviral innate immunity](#)
- [SARS-CoV-2 main protease cleaves MAGED2 to antagonize host antiviral defense.](#)
- [Alamandine/MrgD axis prevents TGF- \$\beta\$ 1-mediated fibroblast activation via regulation of aerobic glycolysis and mitophagy](#)
- [Seasonal expressions of GPR41 and GPR43 in the colon of the wild ground squirrels \( \)](#)
- [A comprehensive analysis of the circRNA-miRNA-mRNA network in osteocyte-like cell associated with \*Mycobacterium leprae\* infection](#)
- [Design, synthesis and biological evaluation of thioether-containing lenalidomide and pomalidomide derivatives with anti-multiple myeloma activity](#)
- [Revealing the Therapeutic Potential of Botulinum Neurotoxin Type A in Counteracting Paralysis and Neuropathic Pain in Spinally Injured Mice](#)
- [Novel Class of Colony-Stimulating Factor 1 Receptor Kinase Inhibitors Based on an -Aminopyridyl Alkynyl Scaffold as Potential Treatment for Inflammatory Disorders](#)
- [DOT1L regulates thermogenic adipocyte differentiation and function via modulating H3K79 methylation](#)
- [Triose Kinase Controls the Lipogenic Potential of Fructose and Dietary Tolerance](#)
- [MiR-4448 is involved in deltamethrin resistance by targeting CYP4H31 in \*Culex pipiens pallens\*](#)
- [p120-catenin suppresses proliferation and tumor growth of oral squamous cell carcinoma via inhibiting nuclear phospholipase C- \$\gamma\$ 1 signaling](#)
- [Seasonal expressions of SF-1, StAR and P450scc in the scent glands of the muskrats \(\*Ondatra zibethicus\*\)](#)
- [Very Early Involvement of Innate Immunity in Peripheral Nerve Degeneration in SOD1-G93A Mice](#)
- [Interleukin-9 regulates macrophage activation in the progressive multiple sclerosis brain](#)
- [Let-7f promotes the differentiation of neural stem cells in rats](#)
- [UCH-L3 promotes non-small cell lung cancer proliferation via accelerating cell cycle and inhibiting cell apoptosis](#)
- [Gambogic acid exhibits anti-metastatic activity on malignant melanoma mainly through inhibition of PI3K/Akt and ERK signaling pathways](#)
- [Sex-determining region Y box 4 \(SOX4\) suppresses Hepatitis B virus replication by inhibiting hepatocyte nuclear factor 4 \$\alpha\$  expression](#)
- [Metformin Synergistically Enhanced the Antitumor Activity of Celecoxib in Human Non-Small Cell Lung Cancer Cells](#)
- [Coxsackievirus B3 Infection of Human Neural Progenitor Cells Results in Distinct Expression Patterns of Innate Immune Genes](#)
- [EBP2, a novel NPM-ALK-interacting protein in the nucleolus, contributes to the proliferation of ALCL cells by regulating tumor suppressor p53](#)
- [Deoxycholic Acid Upregulates Serum Golgi Protein 73 through Activating NF- \$\kappa\$ B Pathway and Destroying Golgi Structure in Liver Disease](#)
- [Zika Virus-Induction of the Suppressor of Cytokine Signaling 1/3 Contributes to the Modulation of Viral Replication](#)
- [Discovery of a novel third-generation EGFR inhibitor and identification of a potential combination strategy to overcome resistance](#)
- [Predicting Radiation Resistance in Breast Cancer with Expression Status of Phosphorylated S6K1](#)
- [Diphyllin Improves High-Fat Diet-Induced Obesity in Mice Through Brown and Beige Adipocytes](#)
- [ADT-OH, a hydrogen sulfide-releasing donor, induces apoptosis and inhibits the development of melanoma in vivo by upregulating FADD](#)
- [The effects of glucose and fatty acids on CXCL10 expression in skeletal muscle cells](#)
- [Tau interactome analyses in CRISPR-Cas9 engineered neuronal cells reveal ATPase-dependent binding of wild-type but not P301L Tau to non-muscle myosins](#)
- [Soluble CD146, a cerebrospinal fluid marker for neuroinflammation, promotes blood-brain barrier dysfunction](#)
- [Melatonin alleviates vascular calcification and ageing through exosomal miR-204/miR-211 cluster in a paracrine manner](#)
- [Berberine derivatives with a long alkyl chain branched by hydroxyl group and methoxycarbonyl group at 9-position show improved anti-proliferation activity and membrane permeability in A549 cells](#)
- [Hepatic DNAJB9 Drives Anabolic Biasing to Reduce Steatosis and Obesity](#)
- [CD146-HIF-1 \$\alpha\$  hypoxic reprogramming drives vascular remodeling and pulmonary arterial hypertension](#)
- [Seasonal expressions of androgen receptor, estrogen receptors, 5 \$\alpha\$ -reductases and P450arom in the epididymis of the male muskrat \(\*Ondatra zibethicus\*\)](#)
- [Berberine promotes the recruitment and activation of brown adipose tissue in mice and humans](#)
- [The ubiquitin ligase CHIP modulates cellular behaviors of gastric cancer cells by regulating TRAF2](#)
- [Seasonal expressions of growth hormone receptor, insulin-like growth factor 1 and insulin-like growth factor 1 receptor in the scented glands of the muskrats \(\*Ondatra zibethicus\*\)](#)
- [Quantitative Proteomics of Presynaptic Mitochondria Reveal an Overexpression and Biological Relevance of Neuronal MitoNEET in Postnatal Brain Development](#)
- [RelB plays an oncogenic role and conveys chemo-resistance to DLD-1 colon cancer cells.](#)

- [Neutrophils and neutrophil extracellular traps enhance venous thrombosis in mice bearing human pancreatic tumors.](#)
- [SIRT5 Regulates Brown Adipocyte Differentiation and Browning of Subcutaneous White Adipose Tissue.](#)
- [Glutathione prevents chronic oscillating glucose intake-induced  \$\beta\$ -cell dedifferentiation and failure.](#)
- [Effects of BENC-511, a novel PI3K inhibitor, on the proliferation and apoptosis of A549 human lung adenocarcinoma cells.](#)
- [Exosomes increased angiogenesis in papillary thyroid cancer microenvironment.](#)
- [Bim escapes displacement by BH3-mimetic anti-cancer drugs by double-bolt locking both Bcl-XL and Bcl-2.](#)
- [Remote Induction of Cell Autophagy by 2D MoS2 Nanosheets via Perturbing Cell Surface Receptor and mTOR Pathway from Outside of Cell.](#)
- [The Changes of 8-OHdG, hOGG1, APE1 and Pol  \$\beta\$  in Lenses of Patients with Age-Related Cataract.](#)
- [Levels of Rabs and WAVE family proteins associated with translocation of GLUT4 to the cell surface in endometria from hyperinsulinemic PCOS women.](#)
- [XAF1 contributes to dengue virus-induced apoptosis in vascular endothelial cells.](#)
- [Focal adhesion kinases and calcium/calmodulin-dependent protein kinases regulate protein tyrosine phosphorylation in stallion sperm.](#)
- [Regulatory interplay between NFIC and TGF- \$\beta\$ 1 in apical papilla-derived stem cells.](#)
- [Poly\(A\) polymerase and the nuclear poly\(A\) binding protein, PABPN1, coordinate the splicing and degradation of a subset of human pre-mRNAs.](#)
- [Myocyte Enhancer Factor 2A Regulates Hydrogen Peroxide-Induced Senescence of Vascular Smooth Muscle Cells Via microRNA-143.](#)
- [Nuclear Factor I-C promotes proliferation and differentiation of apical papilla-derived human stem cells in vitro.](#)
- [Characterization of the zebrafish Ugt repertoire reveals a new class of drug-metabolizing UDP glucuronosyltransferases.](#)
- [Erythropoietin pretreatment exerts anti-inflammatory effects in hepatic ischemia/reperfusion-injured rats via suppression of the TLR2/NF- \$\kappa\$ B pathway.](#)
- [Autophagy activation attenuates renal ischemia-reperfusion injury in rats.](#)
- [IGFBP7 promotes hemocyte proliferation in small abalone \*Haliotis diversicolor\*, proved by dsRNA and cap mRNA exposure.](#)
- [MCL-1 degradation mediated by JNK activation via MEKK1/TAK1-MKK4 contributes to anticancer activity of new tubulin inhibitor MT189.](#)
- [Interference with HMGB1 increases the sensitivity to chemotherapy drugs by inhibiting HMGB1-mediated cell autophagy and inducing cell apoptosis.](#)
- [Reg3g Promotes Pancreatic Carcinogenesis in a Murine Model of Chronic Pancreatitis.](#)
- [KDM6B induces epithelial-mesenchymal transition and enhances clear cell renal cell carcinoma metastasis through the activation of SLUG.](#)
- [Ancestral TCDD exposure promotes epigenetic transgenerational inheritance of imprinted gene \*Igf2\*: Methylation status and DNMTs.](#)
- [The association of HLA-G and immune markers in recurrent miscarriages.](#)
- [Proteomic Analysis of Cortical Brain Tissue from the BTBR Mouse Model of Autism: Evidence for Changes in Stop and Myelin-Related Proteins.](#)
- [The anti-malaria drug artesunate inhibits cigarette smoke and ovalbumin concurrent exposure-induced airway inflammation and might reverse glucocorticoid insensitivity.](#)
- [Huaier aqueous extract sensitizes cells to rapamycin and cisplatin through activating mTOR signaling.](#)
- [Sulfuretin protects hepatic cells through regulation of ROS levels and autophagic flux.](#)
- [\$\gamma\$ -secretase inhibitor DAPT mitigates cisplatin-induced acute kidney injury by suppressing Notch1 signaling.](#)
- [Dominant Negative FADD/MORT1 Inhibits the Development of Intestinal Intraepithelial Lymphocytes With a Marked Defect on CD8 \$\alpha\alpha\$ +TCR \$\gamma\delta\$ + T Cells.](#)
- [A Recombinant HAV Expressing a Neutralization Epitope of HEV Induces Immune Response against HAV and HEV in Mice.](#)
- [DFMG reverses proliferation and migration of vascular smooth muscle cells induced by co-culture with injured vascular endothelial cells via suppression of the TLR4-mediated signaling pathway.](#)
- [AMP-Activated Protein Kinase \(AMPK\) Regulates Energy Metabolism through Modulating Thermogenesis in Adipose Tissue.](#)
- [Wnt pathway is involved in 5-FU drug resistance of colorectal cancer cells.](#)
- [Up-regulated expression of CD147 gene in malignant bone tumor and the possible induction mechanism during osteoclast formation.](#)
- [Single-walled carbon-nanohorns improve biocompatibility over nanotubes by triggering less protein-initiated pyroptosis and apoptosis in macrophages.](#)
- [Polyprenols mitigate cognitive dysfunction and neuropathology in the APP/PS1 mouse.](#)
- [Lactoferrin promotes murine C2C12 myoblast proliferation and differentiation and myotube hypertrophy.](#)
- [Inhibition of P-glycoprotein mediated efflux in Caco-2 cells by phytic acid.](#)
- [A protective role for FADD dominant negative \(FADD-DN\) mutant in trinitrochlorobenzene \(TNCB\)-induced murine contact hypersensitivity reactions.](#)
- [Overexpression of Sirt6 is a novel biomarker of malignant human colon carcinoma.](#)
- [TRPV4 Channels Contribute to Renal Myogenic Autoregulation in Neonatal Pigs.](#)
- [Zinc Depletion by TPEN Induces Apoptosis in Human Acute Promyelocytic NB4 Cells.](#)
- [PML-RAR \$\alpha\$  stabilized by zinc in human acute promyelocytic leukemia NB4 cells.](#)
- [Protective Effects of Geniposide on Hepatic Ischemia/Reperfusion Injury.](#)

- [Schlafen 14 \(SLFN14\) is a novel antiviral factor involved in the control of viral replication.](#)
- [Overexpression of ubiquitin specific peptidase 14 predicts unfavorable prognosis in esophageal squamous cell carcinoma.](#)
- [SBI0206965, a novel inhibitor of Ulk1, suppresses non-small cell lung cancer cell growth by modulating both autophagy and apoptosis pathways.](#)
- [ACY-1215 accelerates vemurafenib induced cell death of BRAF-mutant melanoma cells via induction of ER stress and inhibition of ERK activation.](#)
- [Huaier aqueous extract inhibits proliferation and metastasis of tuberous sclerosis complex cell models through downregulation of JAK2/STAT3 and MAPK signaling pathways.](#)
- [Abnormal expression of key genes and proteins in the canonical Wnt/ \$\beta\$ -catenin pathway of articular cartilage in a rat model of exercise-induced osteoarthritis.](#)
- [UVRAG Deficiency Exacerbates Doxorubicin-Induced Cardiotoxicity.](#)
- [Metformin Alleviates Aging Cellular Phenotypes in Hutchinson-Gilford Progeria Syndrome Dermal Fibroblasts.](#)
- [Redistribution of adrenomedullary nicotinic acetylcholine receptor subunits and the effect on circulating epinephrine levels in a murine model of acute asthma.](#)
- [STAT3 signaling drives EZH2 transcriptional activation and mediates poor prognosis in gastric cancer.](#)
- [Anti-Inflammatory Effects of Chloranthalactone B in LPS-Stimulated RAW264.7 Cells.](#)
- [CUG-binding protein 1 regulates HSC activation and liver fibrogenesis.](#)
- [STARD13 promotes hepatocellular carcinoma apoptosis by acting as a ceRNA for Fas.](#)
- [Inhibitory effects of silibinin on proliferation and lung metastasis of human high metastasis cell line of salivary gland adenoid cystic carcinoma via autophagy induction.](#)
- [Tumor-targeted delivery of a C-terminally truncated FADD \(N-FADD\) significantly suppresses the B16F10 melanoma via enhancing apoptosis.](#)
- [Deletion of autophagy-related gene 7 in dopaminergic neurons prevents their loss induced by MPTP.](#)
- [Ethyl Pyruvate Combats Human Leukemia Cells but Sparing Normal Blood Cells.](#)
- [Insulin-like growth factor 1 promotes the proliferation and committed differentiation of human dental pulp stem cells through MAPK pathways.](#)
- [Huaier restrains proliferative and invasive potential of human hepatoma SKHEP-1 cells partially through decreased Lamin B1 and elevated NOV.](#)
- [Inhibition of IL-6 trans-signaling in the brain increases sociability in the BTBR mouse model of autism.](#)
- [Splicing mutation in Sbf1 causes nonsyndromic male infertility in the rat.](#)
- [12b-hydroxy-des-D-garcigerin A enhances glucose metabolism in insulin-resistant HepG2 cells via the IRS-1/PI3-K/Akt cell signaling pathway.](#)
- [HMGB1 knockdown effectively inhibits the progression of rectal cancer by suppressing HMGB1 expression and promoting apoptosis of rectal cancer cells.](#)
- [HDAC6 promotes cell proliferation and confers resistance to gefitinib in lung adenocarcinoma.](#)
- [Inhibition of hepatitis B virus replication by a dNTPase-dependent function of the host restriction factor SAMHD1.](#)
- [Insulin-like growth factor binding protein 7, a member of insulin-like growth factor signal pathway, involved in immune response of small abalone Haliotis diversicolor.](#)
- [Dentinogenic capacity: immature root papilla stem cells versus mature root pulp stem cells.](#)
- [Reversal of cocaine-conditioned place preference through methyl supplementation in mice: altering global DNA methylation in the prefrontal cortex.](#)
- [Insulin-like growth factor 1 enhances the proliferation and osteogenic differentiation of human periodontal ligament stem cells via ERK and JNK MAPK pathways.](#)
- [Interleukin 1 beta-induced calcium signaling via TRPA1 channels promotes mitogen-activated protein kinase-dependent mesangial cell proliferation.](#)
- [Klotho overexpression suppresses apoptosis by regulating the Hsp70/Akt/Bad pathway in H9c2\(2-1\) cells.](#)
- [Development of a New Reverse Genetics System for Ebola Virus.](#)
- [An organoid-based screen for epigenetic inhibitors that stimulate antigen presentation and potentiate T-cell-mediated cytotoxicity.](#)
- [Extracellular NLRP3 inflammasome particles are internalized by human coronary artery smooth muscle cells and induce pro-atherogenic effects.](#)
- [Activation of unfolded protein response overcomes Ibrutinib resistance in diffuse large B-cell lymphoma.](#)
- [Pyrazolone derivative C29 protects against HFD-induced obesity in mice via activation of AMPK in adipose tissue.](#)
- [MiR-279-3p regulates deltamethrin resistance through CYP325BB1 in Culex pipiens pallens.](#)
- [Development of a whole-cell biosensor for ethylene oxide and ethylene.](#)
- [\$\beta\$ -Cyclodextrin/dialdehyde glucan-coated keratin nanoparticles for oral delivery of insulin.](#)
- [Restriction of Influenza A Virus by SERINC5.](#)
- [Chitosan nanoparticles for sustained release of metformin and its derived synthetic biopolymer for bone regeneration.](#)
- [The PRMT5/WDR77 complex restricts hepatitis E virus replication.](#)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.