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Beta-Actin Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AM1829B

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	P60709
Other Accession	A2BDB0, P63259, P63260, P63261, Q5ZMQ2, P63258, P60711, Q6QAQ1, P60710, Q4R561, P60706, P60712, P53505
Reactivity	Human, Mouse, Rat
Predicted	Rat, Monkey, Pig, Chicken, Bovine, Xenopus, Canine, Rabbit
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,Igk
Clone Names	137CT26.1.1
Calculated MW	41737

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 IHC-P~~1:100~500 IF~~1:10~50 FC~~1:25 E~~Use at an assay dependent concentration.
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.

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). 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 protafilaments (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.

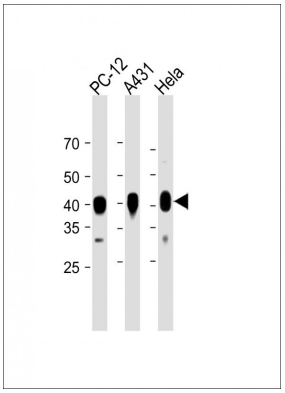
Background

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

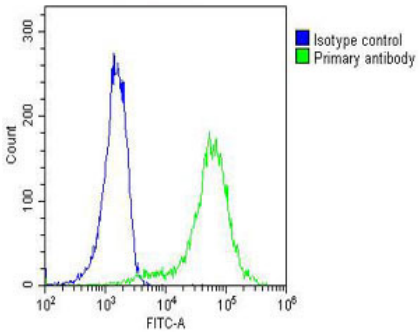
Sex-specific proteome differences in the anterior cingulate cortex of schizophrenia. Martins-de-Souza D, et al. J Psychiatr Res, 2010 Apr 8. PMID 20381070. Identification of a hormone-regulated dynamic nuclear actin network associated with estrogen receptor alpha in human breast cancer cell nuclei. Ambrosino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

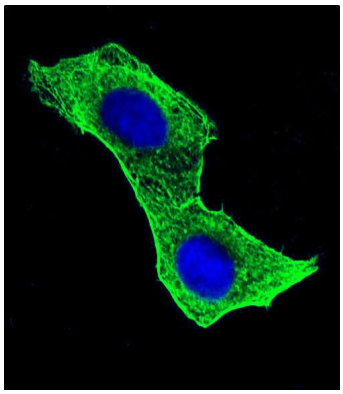
Overlay histogram showing A431 cells stained with AM1829b(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AM1829b, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Mouse IgG,



DyLight® 488 Conjugated Highly Cross-Adsorbed(OJ192088) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was mouse IgG1 (1µg/1x10^6 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 lgG (green). DAPI was used to stain the cell nuclear (blue).

Citations

- Pyoderma gangrenosum caused by the molecular uncoupling of OTULIN catalytic activity and LUBAC binding.
- Novel genotypes, phenotypes, and triggers in humans with OTULIN haploinsufficiency.
- β-catenin links cell seeding density to global gene expression during mouse embryonic stem cell differentiation
- ASK1 inhibition reduces cell death and hepatic fibrosis in an Nlrp3 mutant liver injury model
- 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
- Aspirin potentiates celecoxib-induced growth inhibition and apoptosis in human non-small cell lung cancer by targeting GRP78 activity
- Allopregnanolone Modulates GABAAR-Dependent CaMKIIδ3 and BDNF to Protect SH-SY5Y Cells Against 6-OHDA-Induced Damage
- Voiding Dysfunction in Old Male Rats Associated With Enlarged Prostate and Irregular Afferent-Triggered Reflex Responses
- 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.
- Functional analyses of the three simian hemorrhagic Fever virus nonstructural protein 1 papain-like proteases.
- Evidence for a novel antioxidant function and isoform-specific regulation of the human p66Shc gene.
- Addiction to multiple oncogenes can be exploited to prevent the emergence of therapeutic resistance.
- Androgen receptor silences thioredoxin-interacting protein and competitively inhibits glucocorticoid receptor-mediated apoptosis in pancreatic □-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.
- Yap1 safeguards mouse embryonic stem cells from excessive apoptosis during differentiation.
- Induction of miR-155 after Brain Injury Promotes Type 1 Interferon and has a Neuroprotective Effect.
- 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.
- 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.
- CYLD Promotes TNF-α-Induced Cell Necrosis Mediated by RIP-1 in Human Lung Cancer Cells.
- Reduced Glutamate Release in Adult BTBR Mouse Model of Autism Spectrum Disorder.

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