

Beta-Actin Antibody
Mouse Monoclonal Antibody (Mab)
Catalog # AW5280

Specification

Beta-Actin Antibody - Product Information

Application	WB, IHC, FC,E
Primary Accession	P60709
Other Accession	A2BDB0 , P63259 , P63260 , P63261 , Q5ZMQ2 , P63258 , P60711 , Q6QAO1 , P60710 , Q4R561 , P60706 , P60712 , P53505 , P60708 , P60713
Reactivity	Human, Rat
Predicted	Xenopus, Bovine, Chicken, Horse, Monkey, Mouse, Pig, Sheep
Host	Mouse
Clonality	Monoclonal
Calculated MW	H=42;M=42;Rat=42 KDa
Isotype	IgG1,Igk
Antigen Source	HUMAN

Beta-Actin Antibody - Additional Information

Gene ID 60

Antigen Region
11-395

Other Names
ACTB; Actin, cytoplasmic 1; Beta-actin; Actin, cytoplasmic 1, N-terminally processed

Dilution
WB~~1:4000
IHC~~1:25
FC~~1:25

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

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](http://www.uniprot.org/citations/25255767), PubMed: [29581253](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/39321809), PubMed: [38609661](http://www.uniprot.org/citations/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

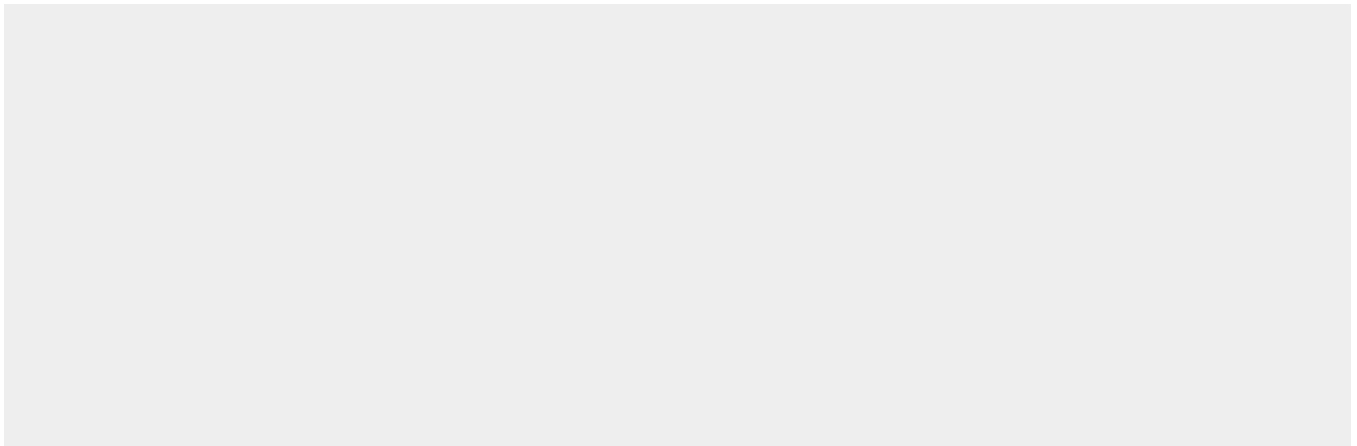
Cytoplasm, cytoskeleton. Nucleus Note=Localized in cytoplasmic mRNP granules containing untranslated mRNAs.

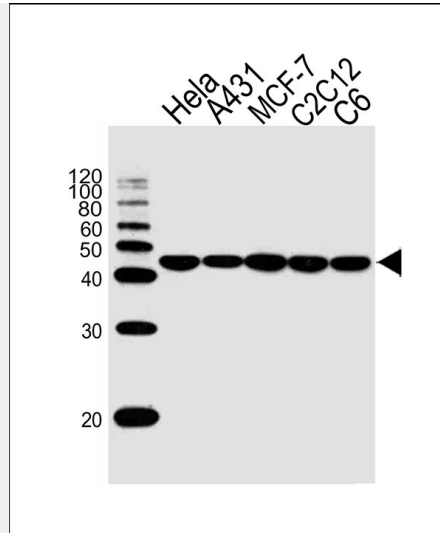
Beta-Actin Antibody - Protocols

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

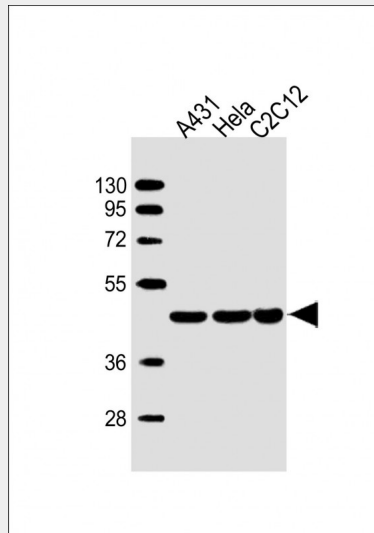
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Beta-Actin Antibody - Images

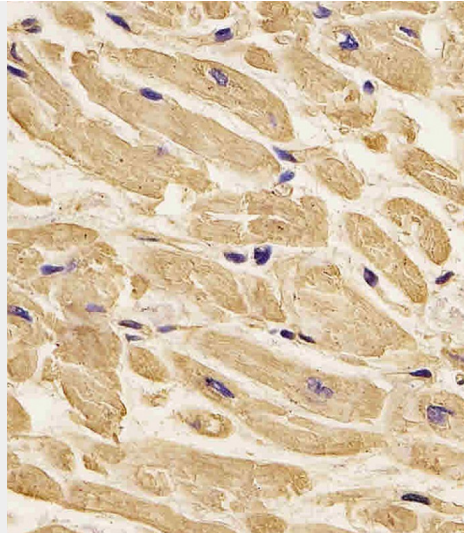




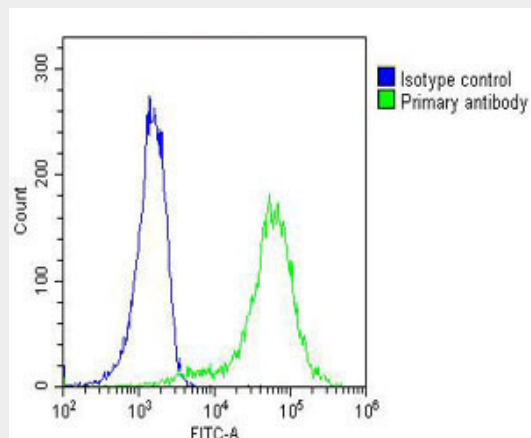
Western blot analysis of lysates from HeLa, A431, MCF-7, mouse C2C12, rat C6 cell line (from left to right), using ACTB Antibody (Cat. #AW5280). AW5280 was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L (HRP) at 1:10000 dilution was used as the secondary antibody.



All lanes : Anti-ACTB Antibody at 1:4000 dilution Lane 1: A431 whole cell lysate Lane 2: HeLa whole cell lysate Lane 3: C2C12 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% NFDN/TBST.



AW5626 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.



Overlay histogram showing A431 cells stained with AW5626 (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 (AW5626, 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/1x10⁶ cells) used under the same conditions. Acquisition of >10,000 events was performed.

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

- [Essential functions of Inositol hexakisphosphate \(IP6\) in Murine Leukemia Virus replication](#)