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Beta-actin Antibody (Ascites)

Mouse Monoclonal Antibody (Mab)
Catalog # AM1021a

Product Information

Application	WB, IHC-P, E
Primary Accession	P60709
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG
Clone Names	8H10D10
Calculated MW	41737

Additional Information

Gene ID	60
Other Names	Actin, cytoplasmic 1, Beta-actin, Actin, cytoplasmic 1, N-terminally processed, ACTB
Target/Specificity	ACTB recombinant protein is used to produce this monoclonal antibody.
Dilution	WB~~1:5000~20000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.
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 (Ascites) 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.

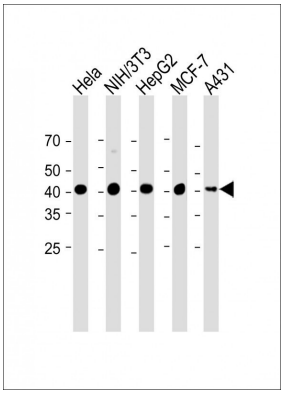
Background

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.

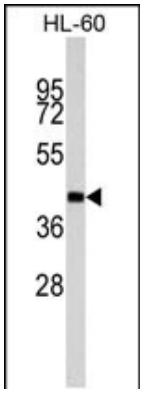
References

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.

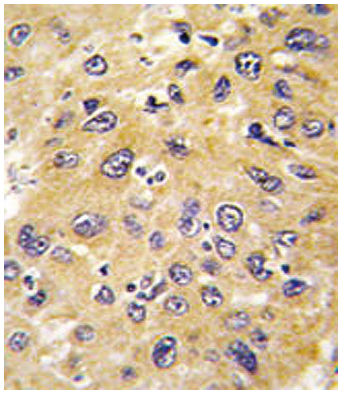
Images



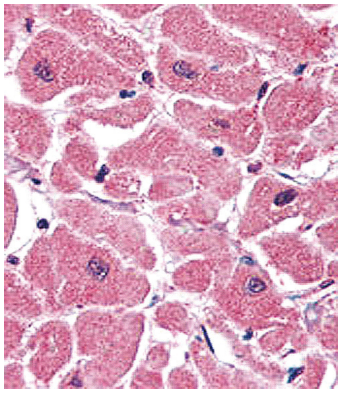
All lanes: Anti-Beta-actin Antibody at 1:1000 dilution Lane 1: Hela whole cell lysate Lane 2: NIH/3T3 whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: MCF-7 whole cell lysate Lane 5: A431 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Observed band size: 42 KDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of anti-Beta-actin Monoclonal Antibody in HL-60 cell line lysates (35µg/lane). Beta-actin (arrow) was detected using the purified Mab.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with Beta-actin Monoclonal Antibody (Cat.#AM1021a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Formalin-fixed and paraffin-embedded human heart tissue reacted with Beta-actin Monoclonal Antibody (Cat.#AM1021a), which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- AK2 Promotes the Migration and Invasion of Lung Adenocarcinoma by Activating TGF-β/Smad Pathway
- Essential functions of Inositol hexakisphosphate (IP6) in Murine Leukemia Virus replication
- Structural Mimicry Drives HIV-1 Rev-Mediated HERV-K Expression

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