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beta-Actin Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1221a

Product Information

Application	WB, FC, ICC, E
Primary Accession	P60709
Reactivity	Human, Mouse, Rat, Hamster, Monkey
Host	Mouse
Clonality	Monoclonal
Clone Names	8H10D10
Isotype	IgG2b
Calculated MW	41737
Description	Beta-actin (PS1TP5-binding protein 1), also known as ACTB, PS1TP5BP1. Entrez Protein NP_001092. It is one of six different actin proteins. Actin, a ubiquitous eukaryotic protein, is the major component of the cytoskeleton.Actins are highly conserved proteins that are involved in various types of cell motility, structure, and integrity. Actin is ubiquitously expressed in all eukaryotic cells. This actin is a major constituent of the contractile apparatus and one of the two nonmuscle cytoskeletal actins.
Immunogen	Synthetic peptide corresponding to amino-terminal residues of human beta-Actin, conjugated to KLH.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	60
Other Names	Actin, cytoplasmic 1, Beta-actin, Actin, cytoplasmic 1, N-terminally processed, ACTB
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. 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.

References

1. Proteomics. 2005 Oct;5(15):3876-84. 2. PLoS Med. 2005 Oct;2(10):e263. 3. Mol Biol Cell. 2005 Nov;16(11):5055-60 4. Nature. 2005 Oct 20;437(7062):1173-8.

Images

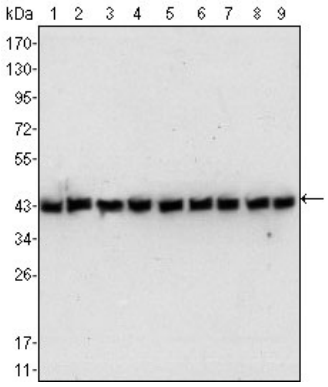


Figure 1: Western blot analysis using beta-Actin mouse mAb against NIH/3T3 (1), Jurkat (2), Hela (3), CHO (4), PC12 (5), HEK293 (6), COS (7), A549 (8) and MCF-7 (9) cell lysate.

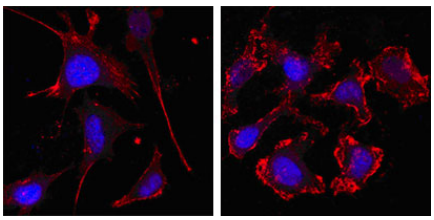


Figure 2: Confocal immunofluorescence analysis of SKBR-3 (left) and A549 (right) cells using beta Actin mouse mAb (red, the secondary Ab is Cy3-Goat anti mouse IgG). Blue: DRAQ5 fluorescent DNA dye.

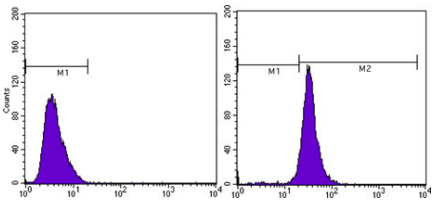
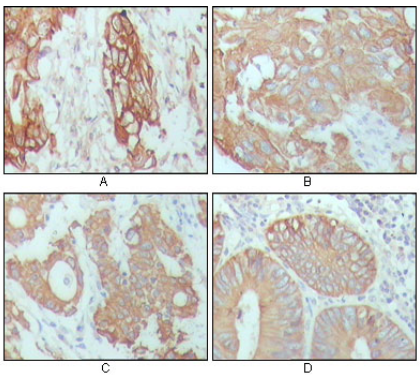


Figure 3: Flow cytometric analysis of MCF-7 cells using beta Actin mouse mAb (right) and negative control (left).

Figure 2: Immunohistochemical analysis of paraffin-embedded human breast carcinoma (A), hepatocarcinoma (B), stomach cancer (C) and colon cancer tissue (D), showing cytoplasmic location with DAB



staining using CK18 mouse mAb.

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