10320 Camino Santa Fe, Suite G
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beta-Actin Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1221a

Specification

beta-Actin Antibody - Product Information

Application	**WB, IF, FC, IHC**
Primary Accession	P60709
Reactivity	**Human, Mouse, Rat, Hamster, Monkey**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG2b**
Calculated MW	**42kDa KDa**

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.

beta-Actin Antibody - 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
IF~~1/200 - 1/1000
FC~~1/200 - 1/400
IHC~~1:200~~1000

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.

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, 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). Part of the ACTR1A/ACTB filament around which the dynactin complex is built. 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 Cytomety
- Cell Culture

beta-Actin Antibody - Images

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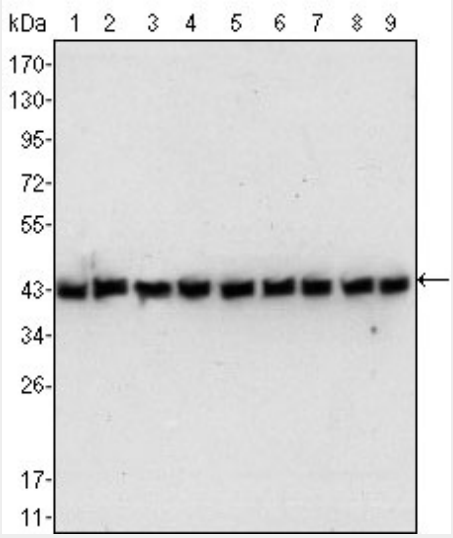

Figure 1: Western blot analysis using beta-Actin mouse mAb against NIH/3T3 (1), Jurkat (2), Hela (3), CHO (4), PC12 (5), HEK293 (6), COS (7), A549 (8) and MCF-7 (9) cell lysate.

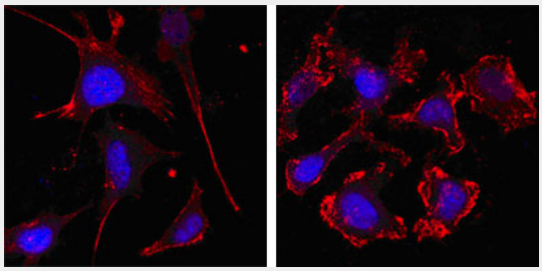

Figure 2: Confocal immunofluorescence analysis of SKBR-3 (left) and A549 (right) cells using beta Actin mouse mAb (red, the secondary Ab is Cy3-Goat anti mouse IgG). Blue: DRAQ5 fluorescent DNA dye.

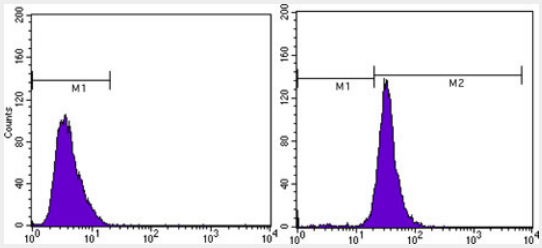

Figure 3: Flow cytometric analysis of MCF-7 cells using beta Actin mouse mAb (right) and negative control (left).

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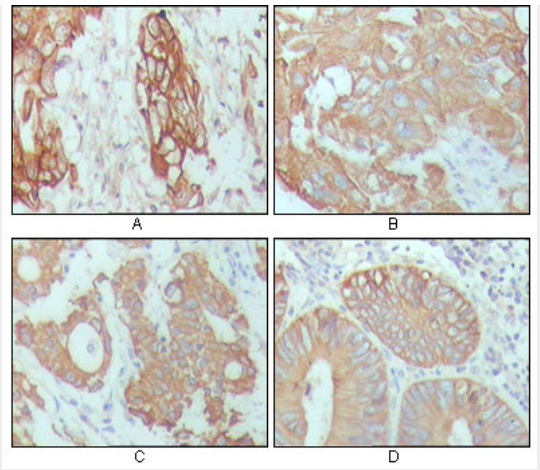

Figure 2: Immunohistochemical analysis of paraffin-embedded human breast carcinoma (A), hepatocarcinoma (B), stomach cancer (C) and colon cancer tissue (D), showing cytoplasmic location with DAB staining using CK18 mouse mAb.

beta-Actin Antibody - 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.