

Alpha-actin-1 monoclonal antibody

Catalog: MB67056

Host: Mouse

Reactivity: Human

Background:

Actin, a ubiquitous eukaryotic protein, is the major component of the cytoskeleton. At least six isoforms are known in mammals. Nonmuscle β - and γ -actin, also known as cytoplasmic actin, are ubiquitously expressed, controlling cell structure and motility. While all actin isoforms are highly homologous, cytoplasmic β - and γ -actin protein sequences differ by only four biochemically similar amino acids. For this reason, antibodies raised to β -actin may cross-react with γ -actin, and vice versa. α -cardiac and α -skeletal actin are expressed in striated cardiac and skeletal muscles, respectively; two smooth muscle actins, α - and γ -actin, are found primarily in vascular smooth muscle and enteric smooth muscle, respectively. These actin isoforms regulate the contractile potential of muscle cells. Actin exists mainly as a fibrous polymer, F-actin. In response to cytoskeletal reorganizing signals during processes such as cytokinesis, endocytosis, or stress, cofilin promotes fragmentation and depolymerization of F-actin, resulting in an increase in the monomeric globular form, G-actin. The ARP2/3 complex stabilizes F-actin fragments and promotes formation of new actin filaments. Research studies have shown that actin is hyperphosphorylated in primary breast tumors. Cleavage of actin under apoptotic conditions has been observed in vitro and in cardiac and skeletal muscle, as shown in research studies. Actin cleavage by caspase-3 may accelerate ubiquitin/proteasome-dependent muscle proteolysis.

Product:

Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 45 kDa

Swiss-Prot:

P68133

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/100), FC (1/10 - 1/50)

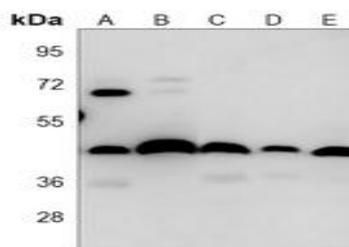
Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

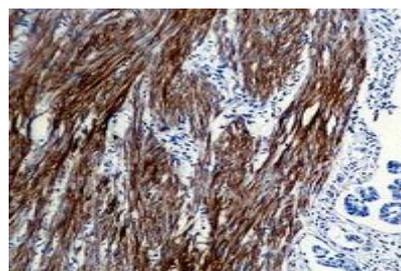
Specificity:

Recognizes endogenous levels of Alpha-actin-1 protein.

DATA:



Western blot analysis of Alpha-actin-1 expression in MDAMB231 (A), MDAMB453 (B), HeLa (C), mouse liver (D), CEM (E) whole cell lysates.



Immunohistochemical analysis of Alpha-actin-1 staining in human colon carcinoma formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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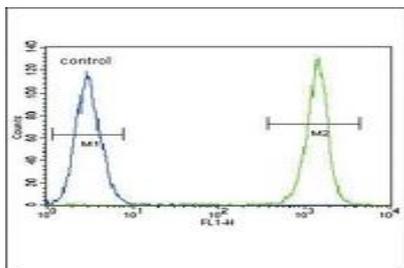
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PRODUCT DATA SHEET

Bioworld Technology, Inc.



Note:

For research use only, not for use in diagnostic procedure.

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