

## Beta-actin monoclonal antibody

Catalog: MB66645

Host: Mouse

Reactivity:

Human, Mouse, Rat, Monkey,  
Chicken, Goat, Hamster, Pig,  
Rabbit, Zebrafish, Plant, Algae,  
Fish, Yeast, Drosophila

### BackGround:

Actin, a ubiquitous eukaryotic protein, is the major component of the cytoskeleton. At least six isoforms are known in mammals. Nonmuscle  $\beta$ - and  $\gamma$ -actin, also known as cytoplasmic actin, are ubiquitously expressed, controlling cell structure and motility. While all actin isoforms are highly homologous, cytoplasmic  $\beta$ - and  $\gamma$ -actin protein sequences differ by only four biochemically similar amino acids. For this reason, antibodies raised to  $\beta$ -actin may cross-react with  $\gamma$ -actin, and vice versa.  $\alpha$ -cardiac and  $\alpha$ -skeletal actin are expressed in striated cardiac and skeletal muscles, respectively; two smooth muscle actins,  $\alpha$ - and  $\gamma$ -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:

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.

### Molecular Weight:

~ 43 kDa

### Swiss-Prot:

P60709

### Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

### Applications:

WB (1/500 - 1/1000)

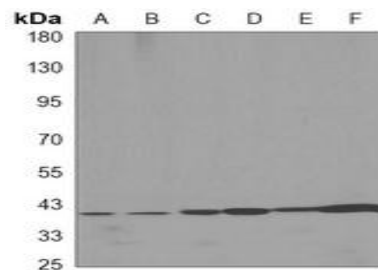
### Storage&Stability:

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

### Specificity:

Recognizes endogenous levels of Beta-actin protein.

### DATA:



Western blot analysis of Beta-actin expression in C6 (A), NIH3T3 (B), COS7 (C), CHOK1 (D), K562 (E), goat muscle (F) whole cell lysates.

### Note:

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

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