

## ACTA1

**Reactivity:** Human Mouse Rat

**Tested applications:** WB IHC

**Recommended Dilution:** WB 1:2000 - 1:5000 IHC 1:50 - 1:200

**Calculated MW:** 42kDa

**Observed MW:** Refer to Figures

**Immunogen:**

Recombinant Protein of human ACTA1

**Storage Buffer:**

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

**Synonym:**

ACTA; ACTA1; ACTA1 skeletal Muscle Actin; actin; Actin; alpha skeletal muscle; Alpha actin 1; ASMA; CFTD;

**Catalog #:** A2478

**Antibody Type:**

Polyclonal Antibody

**Species:** Rabbit

**Gene ID:** 58

**Isotype:** IgG

**Swiss Prot:** P68133

**Purity:** Affinity purification

For research use only.

**Background:**

Actin, a ubiquitous eukaryotic protein, is the major component of the cytoskeleton. At least six isoforms are known in mammals. Nonmuscle - and -actin, also known as cytoplasmic actin, are predominantly expressed in nonmuscle cells, controlling cell structure and motility (1). -cardiac and -skeletal actin are expressed in striated cardiac and skeletal muscles, respectively; two smooth muscle actins, - and -actin, are found primarily in vascular smooth muscle and enteric smooth muscle, respectively. These actin isoforms regulate the contractile potential of muscle cells (1). 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 (2). The ARP2/3 complex stabilizes F-actin fragments and promotes formation of new actin filaments (2). Research studies have shown that actin is hyperphosphorylated in primary breast tumors (3). Cleavage of actin under apoptotic conditions has been observed in vitro and in cardiac and skeletal muscle, as shown in research studies (4-6). Actin cleavage by caspase-3 may accelerate ubiquitin/proteasome-dependent muscle proteolysis (6).

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