

# Actin (H-6): sc-376421

## BACKGROUND

All eukaryotic cells express Actin, which often constitutes as much as 50% of total cellular protein. Actin filaments can form both stable and labile structures and are crucial components of microvilli and the contractile apparatus of muscle cells. While lower eukaryotes, such as yeast, have only one Actin gene, higher eukaryotes have several isoforms encoded by a family of genes. At least six types of Actin are present in mammalian tissues and fall into three classes.  $\alpha$ -Actin expression is limited to various types of muscle, whereas  $\beta$ -Actin and  $\gamma$ -Actin are the principle constituents of filaments in other tissues. Members of the small GTPase family regulate the organization of the Actin cytoskeleton. Rho controls the assembly of Actin stress fibers and focal adhesion. Rac regulates Actin filament accumulation at the plasma membrane. Cdc42 stimulates formation of filopodia.

## SOURCE

Actin (H-6) is a mouse monoclonal antibody raised against amino acids 180-375 of Actin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Actin (H-6) is recommended for detection of a broad range of Actin isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Actin siRNA (h): sc-29191, Actin siRNA (m): sc-29192, Actin shRNA Plasmid (h): sc-29191-SH, Actin shRNA Plasmid (m): sc-29192-SH, Actin shRNA (h) Lentiviral Particles: sc-29191-V and Actin shRNA (m) Lentiviral Particles: sc-29192-V.

Molecular Weight of Actin: 43 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, KNRK whole cell lysate: sc-2214 or HeLa whole cell lysate: sc-2200.

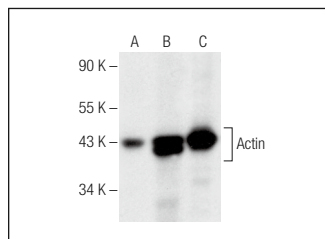
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

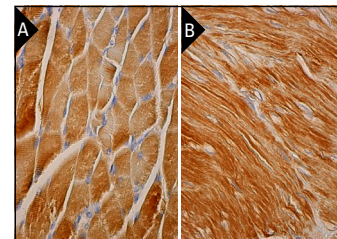
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Actin (H-6): sc-376421. Western blot analysis of Actin expression in HeLa (A), NIH/3T3 (B) and KNRK (C) whole cell lysates.



Actin (H-6): sc-376421. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells (B).

## SELECT PRODUCT CITATIONS

- Wang, Y., et al. 2013. Loss of P53 facilitates invasion and metastasis of prostate cancer cells. *Mol. Cell. Biochem.* 384: 121-127.
- Yao, J., et al. 2015. Rosiglitazone exerts neuroprotective effects via the suppression of neuronal autophagy and apoptosis in the cortex following traumatic brain injury. *Mol. Med. Rep.* 12: 6591-6597.
- Li, Q., et al. 2016. Downregulation of microRNA-196a enhances the sensitivity of non-small cell lung cancer cells to cisplatin treatment. *Int. J. Mol. Med.* 37: 1067-1074.
- Penna, C., et al. 2017. Obestatin regulates cardiovascular function and promotes cardioprotection through the nitric oxide pathway. *J. Cell. Mol. Med.* 21: 3670-3678.
- Liao, D., et al. 2018. miR-221 inhibits autophagy and targets TP53INP1 in colorectal cancer cells. *Exp. Ther. Med.* 15: 1712-1717.
- Wang, Y., et al. 2019. Tangshen formula alleviates hepatic steatosis by inducing autophagy through the AMPK/SIRT1 pathway. *Front. Physiol.* 10: 494.
- Recinella, L., et al. 2020. Antiinflammatory, antioxidant, and behavioral effects induced by administration of growth hormone-releasing hormone analogs in mice. *Sci. Rep.* 10: 732.
- Zhou, J., et al. 2020. Piperlongumine induces apoptosis and G<sub>2</sub>/M phase arrest in human osteosarcoma cells by regulating ROS/PI3K/Akt pathway. *Toxicol. In Vitro* 65: 104775.
- Yang, Y., et al. 2020. Luteolin alleviates neuroinflammation via downregulating the TLR4/TRAF6/NF $\kappa$ B pathway after intracerebral hemorrhage. *Biomed. Pharmacother.* 126: 110044.

## RESEARCH USE

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