

β-Actin (1): sc-130300

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. α-Actin expression is limited to various types of muscle, whereas β- and γ-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 and Cdc42 stimulates formation of filopodia.

CHROMOSOMAL LOCATION

Genetic locus: ACTB (human) mapping to 7p22.1; Actb (mouse) mapping to 5 G2.

SOURCE

β-Actin (1) is a mouse monoclonal antibody raised against recombinant β-Actin of human origin.

PRODUCT

Each vial contains 200 μg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β-Actin (1) is available conjugated to agarose (sc-130300 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130300 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130300 PE), fluorescein (sc-130300 FITC), Alexa Fluor® 488 (sc-130300 AF488), Alexa Fluor® 594 (sc-130300 AF594) or Alexa Fluor® 647 (sc-130300 AF647), 200 μg/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-130300 AF680) or Alexa Fluor® 790 (sc-130300 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

β-Actin (1) is recommended for detection of β-Actin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for β-Actin siRNA (h): sc-108069, β-Actin siRNA (m): sc-108070, β-Actin siRNA (r): sc-156106, β-Actin shRNA Plasmid (h): sc-108069-SH, β-Actin shRNA Plasmid (m): sc-108070-SH, β-Actin shRNA Plasmid (r): sc-156106-SH, β-Actin shRNA (h) Lentiviral Particles: sc-108069-V, β-Actin shRNA (m) Lentiviral Particles: sc-108070-V and β-Actin shRNA (r) Lentiviral Particles: sc-156106-V.

Molecular Weight of β-Actin: 43 kDa.

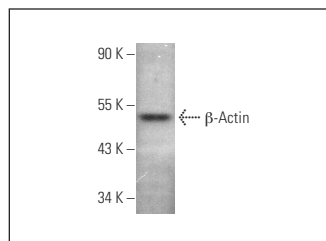
Molecular Weight of β-Actin C-terminal region: 15 kDa.

Positive Controls: HCT-8 cell lysate: sc-24675, HeLa whole cell lysate: sc-2200 or IMR-32 cell lysate: sc-2409.

STORAGE

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

DATA



β-Actin (1): sc-130300. Western blot analysis of β-Actin expression in HCT-8 whole cell lysate.

SELECT PRODUCT CITATIONS

- Skokowa, J., et al. 2006. LEF-1 is crucial for neutrophil granulocytopoiesis and its expression is severely reduced in congenital neutropenia. *Nat. Med.* 12: 1191-1197.
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- Swerev, T.M., et al. 2017. Activation of oncogenic pathways in classical Hodgkin lymphoma by decitabine: a rationale for combination with small molecular weight inhibitors. *Int. J. Oncol.* 50: 555-566.
- Abbaspour Babaei, M., et al. 2017. Apoptotic induction and inhibition of NFκB signaling pathway in human prostatic cancer PC3 cells by natural compound 2,2'-oxybis (4-allyl-1-methoxybenzene), biseugenol B, from *Litsea costalis*: an *in vitro* study. *Oncotargets Ther.* 10: 277-294.
- Wang, Y., et al. 2017. Fluoxetine protects against methamphetamine-induced lung inflammation by suppressing oxidative stress through the SERT/p38 MAPK/Nrf2 pathway in rats. *Mol. Med. Rep.* 15: 673-680.
- Pan, Y., et al. 2017. Berberine reverses hypoxia-induced chemoresistance in breast cancer through the inhibition of AMPK- HIF-1α. *Int. J. Biol. Sci.* 13: 794-803.
- Qu, Y., et al. 2017. Inhibition of paclitaxel resistance and apoptosis induction by cucurbitacin B in ovarian carcinoma cells. *Oncol. Lett.* 14: 145-152.
- Fang, S., et al. 2017. MicroRNA-126 inhibits cell viability and invasion in a diabetic retinopathy model via targeting IRS-1. *Oncol. Lett.* 14: 4311-4318.
- Andreeva, E.R., et al. 2018. IFN-γ priming of adipose-derived stromal cells at "physiological" hypoxia. *J. Cell. Physiol.* 233: 1535-1547.

RESEARCH USE

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

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