

β-Actin (R-22): sc-130657

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 (R-22) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of β-Actin of rat origin.

PRODUCT

Each vial contains 100 μg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin, 6% glycerol, 0.1% BSA and 0.002% thimerosal.

APPLICATIONS

β-Actin (R-22) is recommended for detection of the 15kDa C-terminal fragment and full-length β-Actin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)].

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: C32 whole cell lysate: sc-2205, HL-60 whole cell lysate: sc-2209 or Sol8 cell lysate: sc-2249.

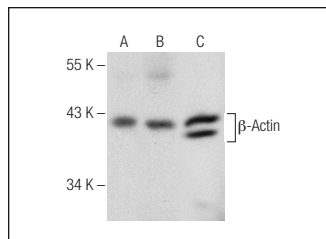
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

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 (R-22): sc-130657. Western blot analysis of β-Actin expression in C32 (A), HL-60 (B) and Sol8 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Wang, Q., et al. 2009. Luteinizing hormone induces expression of 11β-hydroxysteroid dehydrogenase type 2 in rat Leydig cells. *Reprod. Biol. Endocrinol.* 7: 39.
- Magyar, J.E., et al. 2009. Endoplasmic reticulum stress underlying the pro-apoptotic effect of epigallocatechin gallate in mouse hepatoma cells. *Int. J. Biochem. Cell Biol.* 41: 694-700.
- Yang, J., et al. 2013. MiR-34 modulates *Caenorhabditis elegans* lifespan via repressing the autophagy gene atg9. *Age* 35: 11-22.
- Li, X., et al. 2013. Progesterone treatment before experimental hypoxia-ischemia enhances the expression of glucose transporter proteins GLUT1 and GLUT3 in neonatal rats. *Neurosci. Bull.* 29: 287-294.
- Sarmishtha, C., et al. 2013. Regulation of autophagy in rat hepatocytes treated *in vitro* with low concentration of mercury. *Toxicol. Environ. Chem.* 95: 504.
- Romaní-Pérez, M., et al. 2013. Pulmonary GLP-1 receptor increases at birth and exogenous GLP-1 receptor agonists augmented surfactant-protein levels in litters from normal and nitrofen-treated pregnant rats. *Endocrinology* 154: 1144-1155.

RESEARCH USE

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



Try **β-Actin (C4): sc-47778** or **β-Actin (ACTBD11B7): sc-81178**, our highly recommended monoclonal alternatives to β-Actin (R-22). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **β-Actin (C4): sc-47778**.