

# β-Actin (C4): sc-47778



## 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.

## REFERENCES

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4. Schutt, C.E., Rozycki, M.D., Myslik, J.C. and Lindberg, U. 1995. A discourse on modeling F-Actin. *J. Struct. Biol.* 115: 186-198.
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## CHROMOSOMAL LOCATION

Genetic locus: ACTB (human) mapping to 7p15-p12; Actb (mouse) mapping to 5 G2.

## SOURCE

β-Actin (C4) is a mouse monoclonal antibody raised against chicken gizzard Actin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-47778 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as HRP conjugate for Western blotting, sc-47778 HRP, 200 µg/ml.

Available as biotin conjugate, sc-47778 B, 200 µg/1 ml.

## APPLICATIONS

β-Actin (C4) is recommended for detection of β-Actin of mouse, rat, human, chicken, cow, dog, pig, rabbit, *Dictyostelium discoideum* and *Physarum polycephalum* origin by Western Blotting (starting dilution 1:1000, dilution range 1:1000 - 1:10,000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:500, dilution range 1:500 - 1:5000); may cross-react with all six known isoforms of Actin, including two cytoplasmic forms (β, λ); non cross reactive with adult cardiac, smooth or skeletal muscle Actin.

Molecular Weight of β-Actin: 43 kDa.

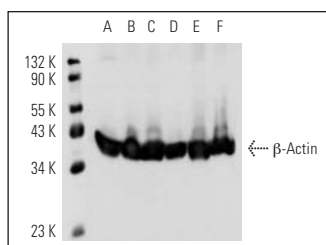
Suitable for use as control antibody for Actin siRNA (h): sc-29191 and Actin siRNA (m): sc-29192.

Positive Controls: C32 whole cell lysate: sc-2205, BC3H1 cell lysate: sc-2299 or KNRK whole cell lysate: sc-2214.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

## DATA



β-Actin (C4): sc-47778. Western blot analysis of β-Actin expression in C32 (A), BC3H1 (B), KNRK (C), HeLa (D), NIH/3T3 (E) and IMR-32 (F) whole cell lysates.

## STORAGE

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

## RESEARCH USE

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