

# $\alpha$ -Actin (G-12): sc-130619

## 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  $\beta$ - 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 and Cdc42 stimulates formation of filopodia.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: ACTA2 (human) mapping to 10q23.31; Acta2 (mouse) mapping to 19 C1.

## SOURCE

$\alpha$ -Actin (G-12) is an affinity purified rabbit polyclonal antibody raised against a synthetic peptide corresponding to amino acids 247-258 of  $\alpha$ -Actin of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

$\alpha$ -Actin (G-12) is recommended for detection of smooth muscle  $\alpha$ -Actin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ACTA2 siRNA (h): sc-43590, ACTA2 siRNA (m): sc-43591, ACTA2 shRNA Plasmid (h): sc-43590-SH, ACTA2 shRNA Plasmid (m): sc-43591-SH, ACTA2 shRNA (h) Lentiviral Particles: sc-43590-V and ACTA2 shRNA (m) Lentiviral Particles: sc-43591-V.

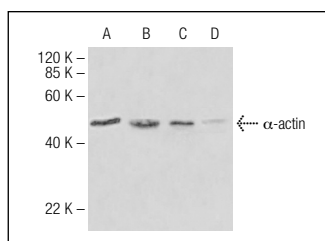
Molecular Weight of  $\alpha$ -Actin: 43 kDa.

Positive Controls: C32 whole cell lysate: sc-2205, IMR-32 cell lysate: sc-2409 or A-10 cell lysate: sc-3806.

## 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).

## DATA



$\alpha$ -Actin (G-12): sc-130619. Western blot analysis of  $\alpha$ -actin expression in HeLa whole cell lysate (A) and rabbit muscular (B), fish (C) and rat brain (D) tissue extracts.

## 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.


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Try  $\alpha$ -Actin (1A4): sc-32251 or  $\alpha$ -Actin (a-SM1): sc-130616, our highly recommended monoclonal alternatives to  $\alpha$ -Actin (G-12). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see  $\alpha$ -Actin (1A4): sc-32251.