**α-Actin (1A4): sc-32251**

### 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- are the principal 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: ACTA2 (human) mapping to 10q23.31; Acta2 (mouse) mapping to 19 C1.

### SOURCE

α-Actin (1A4) is a mouse monoclonal antibody raised against amino acids 1-10 mapping at the N-terminus of smooth muscle α-Actin of human origin.

### PRODUCT

Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α-Actin (1A4) is available conjugated to agarose (sc-32251 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32251 HRP), 200 µg/ml, for WB, IHC(PE) and ELISA; or to α-sodium azide and 0.1% gelatin. Alexa Fluor ® 680 (sc-32251 AF680) or Alexa Fluor ® 790 (sc-32251 AF790), to 19°C.

### APPLICATIONS

α-Actin (1A4) is recommended for detection of smooth muscle α-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)], 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]; non-cross-reactive with actin from fibroblasts (β- and γ-cytoplasmic), myocardium (α-myocardial), and striated muscle (α-sarcomeric).

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 α-Actin: 43 kDa.

### STORAGE

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

### DATA

![Image](https://example.com/image.png)

α-Actin (1A4) HRP: sc-32251 HRP. Direct western blot analysis of α-Actin expression in C2C12 (A), A-10 (B), NIH/3T3 (C), BC3H1 (D) and SaBl (E) whole cell lysates and human heart tissue extract (F).

### SELECT PRODUCT CITATIONS


### RESEARCH USE

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