Smooth Muscle Actin (B4): sc-53142

**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. Cdc42 stimulates formation of filopodia.

**SOURCE**

Smooth Muscle Actin (B4) is a mouse monoclonal antibody raised against gizzard Actin of chicken origin.

**PRODUCT**

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

Smooth Muscle Actin (B4) is available conjugated to agarose (sc-53142 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53142 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycocerythrin (sc-53142 PE), fluorescein (sc-53142 FITC), Alexa Fluor® 488 (sc-53142 AF488), Alexa Fluor® 546 (sc-53142 AF546), Alexa Fluor® 594 (sc-53142 AF594) or Alexa Fluor® 647 (sc-53142 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53142 AF680) or Alexa Fluor® 790 (sc-53142 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**APPLICATIONS**

Smooth Muscle Actin (B4) is recommended for detection of enteric smooth muscle γ-Actin and, to a lesser extent, α-smooth muscle, α-skeletal (sarcomeric) isoforms of Actin of mouse, rat, human and avian 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non-cross-reactive with cytoplasmic Actins.

Suitable for use as control antibody for Actin siRNA (h): sc-29191, Actin shRNA Plasmid (h): sc-29191-SH and Actin shRNA (h) Lentiviral Particles: sc-29191-V.

Molecular Weight of Smooth Muscle Actin: 43 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, C32 whole cell lysate: sc-2205 or A-10 cell lysate: sc-3006.

**STORAGE**

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

**DATA**

Smooth Muscle Actin (B4): sc-53142. Western blot analysis of Smooth Muscle Actin expression in H1SM (A), A-10 (B), HeLa (C) and C32 (D) whole cell lysates.

Smooth Muscle Actin (B4): sc-53142. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myofibers (B).

**SELECT PRODUCT CITATIONS**


**PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.