SANTA CRUZ BIOTECHNOLOGY, INC.

Actin (C-2): sc-8432

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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

1. Maccioni, R.B. and Cambiazo, V. 1995. Role of microtubule-associated proteins in the control of microtubule assembly. Physiol. Rev. 75: 835-864.
2. Schutt, C.E., et al. 1995. A discourse on modeling F-actin. J. Struct. Biol. 115: 186-198.

SOURCE

Actin (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 350-375 at the C-terminus of Actin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Actin (C-2) is available conjugated to agarose (sc-8432 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8432 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8432 PE), fluorescein (sc-8432 FITC), Alexa Fluor® 488 (sc-8432 AF488), Alexa Fluor® 546 (sc-8432 AF546), Alexa Fluor® 594 (sc-8432 AF594) or Alexa Fluor® 647 (sc-8432 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8432 AF680) or Alexa Fluor® 790 (sc-8432 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Actin (C-2) is available conjugated to either TRITC (sc-8432 TRITC, 200 µg/ml), PerCP (sc-8432 PerCP), PerCP-Cy5.5 (sc-8432 PCPC5) or Alexa Fluor® 405 (sc-8432 AF405), 100 tests in 2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-8432 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Actin (C-2) is recommended for detection of a broad range of Actin isoforms of mouse, rat, human and *Xenopus laevis* 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

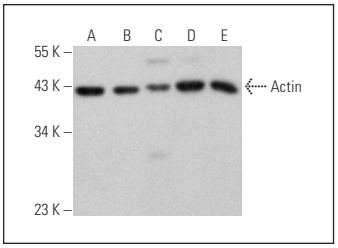
Actin (C-2) is also recommended for detection of a broad range of Actin isoforms in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Actin siRNA (h): sc-29191, Actin siRNA (m): sc-29192, Actin shRNA Plasmid (h): sc-29191-SH, Actin shRNA Plasmid (m): sc-29192-SH, Actin shRNA (h) Lentiviral Particles: sc-29191-V and Actin shRNA (m) Lentiviral Particles: sc-29192-V.

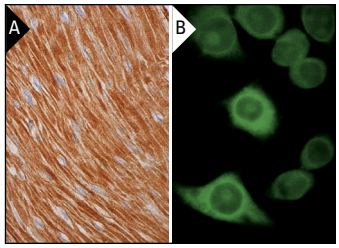
Molecular Weight of Actin: 43 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Sol8 cell lysate: sc-2249 or BC_3H1 cell lysate: sc-2299.

DATA



Actin (C-2): sc-8432. Western blot analysis of Actin expression in C32 (**A**), A-431 (**B**), Sol8 (**C**), BC_3H1 (**D**) and RAW 264.7 (**E**) whole cell lysates.



Actin (C-2): sc-8432. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (**B**).

SELECT PRODUCT CITATIONS

1. Xiao, G., et al. 2001. Retroviral oncoprotein Tax induces processing of NFκB2/p100 in T cells: evidence for the involvement of IKKα. EMBO J. 20: 6805-6815.
2. Yuan, H., et al. 2017. Tenovin-6 impairs autophagy by inhibiting autophagic flux. Cell Death Dis. 8: e2608.
3. Wang, J., et al. 2017. Phosphorylation-dependent regulation of ALDH1A1 by Aurora kinase A: insights on their synergistic relationship in pancreatic cancer. BMC Biol. 15: 10.

RESEARCH USE

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