SANTA CRUZ BIOTECHNOLOGY, INC.

Actin (I-19): sc-1616

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.

SOURCE

Actin (I-19) is available as either goat (sc-1616) or rabbit (sc-1616-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of Actin of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Actin (I-19) is available conjugated to agarose (sc-1616 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-1616 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-1616 PE, 200 µg/ml), fluorescein (sc-1616 FITC, 200 µg/ml), Alexa Fluor® 488 (sc-1616 AF488, 200 µg/ml) or Alexa Fluor® 647 (sc-1616 AF647, 200 µg/ml), for IF, IHC(P) and FCM.

In addition, Actin (I-19) is available conjugated to biotin (sc-1616 B), 200 µg/ml, for WB, IHC(P) and ELISA; and to either TRITC (sc-1616 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-1616 AF405), 100 µg/2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-1616 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Actin (I-19) is recommended for detection of a broad range of Actin isoforms of mouse, rat, human, *Drosophila melanogaster, Xenopus laevis,* zebrafish and *Caenorhabditis elegans* 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 (I-19) is also recommended for detection of a broad range of Actin isoforms in additional species, including equine, canine, bovine, porcine and avian.

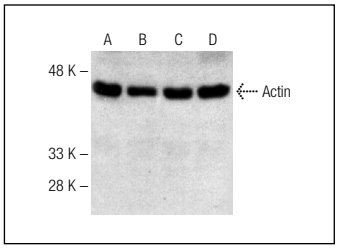
Molecular Weight of Actin: 43 kDa.

Positive Controls: C32 whole cell lysate: sc-2205, A-431 whole cell lysate: sc-2201 or HL-60 whole cell lysate: sc-2209.

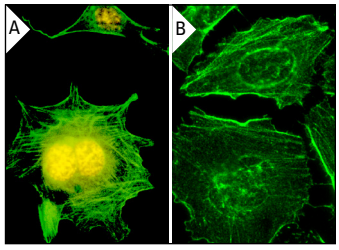
STORAGE

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

DATA



Actin (I-19): sc-1616. Western blot analysis of Actin expression in C32 (**A**), BC_3H1 (**B**), Sol 8 (**C**) and L8 (**D**) whole cell lysates.



Actin (I-19): sc-1616. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoskeletal fluorescein immunostaining of actin filaments. Note nuclear rhodamine immunostaining with PCNA (PC-10): sc-56 (**A**). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization (**B**).

SELECT PRODUCT CITATIONS

1. Pogorzelska, E., et al. 1990. Modification of the test for determining bacterial capacity for nitrate reduction. Rocz. Panstw. Zakl. Hig. 41: 58-62.
2. Ajayi, A., et al. 2015. Altered p53 and NOX1 activity cause bioenergetic defects in a SCA7 polyglutamine disease model. Biochim. Biophys. Acta 1847: 418-428.
3. Namachivayam, K., et al. 2015. All-*trans* retinoic acid induces TGF-β2 in intestinal epithelial cells via RhoA- and p38α MAPK-mediated activation of the transcription factor ATF2. PLoS ONE 10: e0134003.
4. Pertega-Gomes, N., et al. 2015. A glycolytic phenotype is associated with prostate cancer progression and aggressiveness: a role for monocarboxylate transporters as metabolic targets for therapy. J. Pathol. 236: 517-530.
5. McKee, C., et al. 2015. Amphiregulin activates human hepatic stellate cells and is upregulated in non alcoholic steatohepatitis. Sci. Rep. 5: 8812.
6. Zhang, D., et al. 2016. Glucocorticoid exposure in early placentation induces preeclampsia in rats via interfering trophoblast development. Gen. Comp. Endocrinol. 225: 61-70.
7. Todorovic, N., et al. 2016. Olanzapine modulation of hepatic oxidative stress and inflammation in socially isolated rats. Eur. J. Pharm Sci. 81: 94-102.

RESEARCH USE

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