SANTA CRUZ BIOTECHNOLOGY, INC.

# Arp2 (H-84): sc-15389

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND BACKGROUND

Actin polymerization is required for a variety of cell functions, including chemotaxis, cell migration, cell adhesion and platelet activation. Cells trigger Actin polymerization through either the *de novo* nucleation of filaments from monomeric Actin, the severing of existing filaments to create uncapped barbed ends or the uncapping of existing barbed ends. The nucleation of Actin is a rate-limiting and unfavorable reaction in Actin polymerization and therefore requires the involvement of the Arp2/3 complex, which helps create new filaments and promotes the end-to-side cross-linking of Actin filaments into the branching meshwork. The Arp2/3 complex consists of the Actin-related proteins Arp2 and Arp3, and various other accessory proteins. The Arp2/3 complex promotes Actin nucleation by binding the pointed end of Actin filaments, or by associating with the side of an existing filament, and nucleates growth in the barbed direction. In addition, the Arp2/3 complex also mediates Actin cytoskeletal outgrowths that are regulated by the Rho family of small GTPases. In response to GTP-binding Cdc42, the Arp2/3 complex binds the Cdc42 substrates, namely the WASP proteins, and initiates the formation of lamellipodia and filopodia.

## CHROMOSOMAL LOCATION

Genetic locus: ACTR2 (human) mapping to 2p14; Actr2 (mouse) mapping to 11 A3.1.

## SOURCE

Arp2 (H-84) is a rabbit polyclonal antibody raised against amino acids 311-394 of Arp2 of human origin.

## PRODUCT

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

## APPLICATIONS

Arp2 (H-84) is recommended for detection of Arp2 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).

Arp2 (H-84) is also recommended for detection of Arp2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Arp2 siRNA (h): sc-29737, Arp2 siRNA (m): sc-29738, Arp2 shRNA Plasmid (h): sc-29737-SH, Arp2 shRNA Plasmid (m): sc-29738-SH, Arp2 shRNA (h) Lentiviral Particles: sc-29737-V and Arp2 shRNA (m) Lentiviral Particles: sc-29738-V.

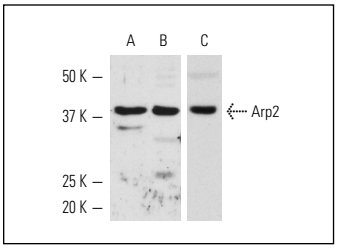
Molecular Weight of Arp2: 43 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, RAW 264.7 whole cell lysate: sc-2211 or C32 whole cell lysate : sc-2205.

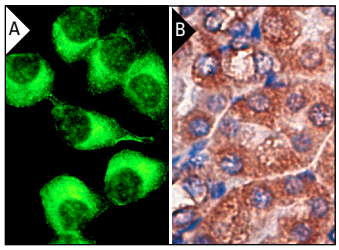
## STORAGE

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

## DATA




Arp2 (H-84): sc-15389. Western blot analysis of Arp2 expression in C32 (**A**), KNRK (**B**) and RAW 264.7 (**C**) whole cell lysates.




Arp2 (H-84): sc-15389. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue showing cytoplasmic localization (**B**).

## SELECT PRODUCT CITATIONS


1. Komano, J., et al. 2004. Inhibiting the Arp2/3 complex limits infection of both intracellular mature vaccinia virus and primate lentiviruses. Mol. Biol. Cell 15: 5197-5207.
2. Mani, M., et al. 2009. Wiskott-Aldrich syndrome protein is an effector of Kit signaling. Blood 114: 2900-2908.
3. Sanchez, A.M., et al. 2009. Rapid signaling of estrogen to WAVE1 and moesin controls neuronal spine formation via the actin cytoskeleton. Mol. Endocrinol. 23: 1193-1202.
4. Escobar, B., et al. 2010. Brick1 is an essential regulator of actin cytoskeleton required for embryonic development and cell transformation. Cancer Res. 70: 9349-9359.
5. Liao, G., et al. 2011. Mis-localization of Arp2 mRNA impairs persistence of directional cell migration. Exp. Cell Res. 317: 812-822.
6. Leblanc, J., et al. 2011. The small GTPase Cdc42 promotes membrane protrusion during polar body emission via ARP2-nucleated actin polymerization. Mol. Hum. Reprod. 17: 305-316.
7. Baumgartner, M. 2011. Theileria annulata promotes Src kinase-dependent host cell polarization by manipulating actin dynamics in podosomes and lamellipodia. Cell. Microbiol. 13: 538-553.


## RESEARCH USE

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