

# Arp3 (H-110): sc-15390

## 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 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: ACTR3 (human) mapping to 2q14.1; Actr3 (mouse) mapping to 1 E3.

## SOURCE

Arp3 (H-110) is a rabbit polyclonal antibody raised against amino acids 1-110 of Arp3 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

Arp3 (H-110) is recommended for detection of Arp3 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).

Arp3 (H-110) is also recommended for detection of Arp3 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for Arp3 siRNA (h): sc-29739, Arp3 siRNA (m): sc-29740, Arp3 shRNA Plasmid (h): sc-29739-SH, Arp3 shRNA Plasmid (m): sc-29740-SH, Arp3 shRNA (h) Lentiviral Particles: sc-29739-V and Arp3 shRNA (m) Lentiviral Particles: sc-29740-V.

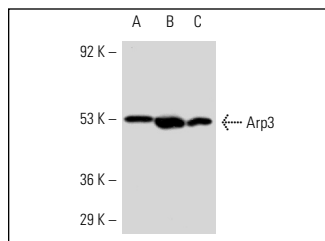
Molecular Weight of Arp3: 53 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, KNRK whole cell lysate: sc-2214 or NIH/3T3 whole cell lysate: sc-2210.

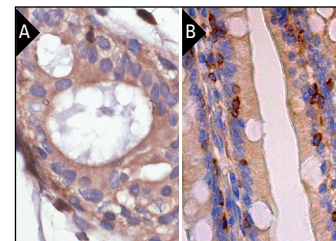
## STORAGE

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

## DATA



Arp3 (H-110): sc-15390. Western blot analysis of Arp3 expression in HeLa (A), KNRK (B) and NIH/3T3 (C) whole cell lysates.



Arp3 (H-110): sc-15390. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and perinuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Koivisto, L., et al. 2004. Glycogen synthase kinase-3 regulates cytoskeleton and translocation of Rac 1 in long cellular extensions of human keratinocytes. *Exp. Cell Res.* 293: 68-80.
- Innocenti, M., et al. 2005. Abi-1 regulates the activity of N-WASP and WAVE in distinct actin-based processes. *Nat. Cell Biol.* 7: 969-976.
- Jewett, T.J., et al. 2006. Chlamydial TARP is a bacterial nucleator of actin. *Proc. Natl. Acad. Sci. USA* 103: 15599-15604.
- Liao, G., et al. 2011. Mis-localization of Arp2 mRNA impairs persistence of directional cell migration. *Exp. Cell Res.* 317: 812-822.
- Nagai, Y., et al. 2013. p130Cas plays important roles in osteoclastic bone resorption. *J. Bone Miner. Res.* doi: 10.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



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Try **Arp3 (A-1): sc-48344** or **Arp3 (B-1): sc-374200**, our highly recommended monoclonal alternatives to Arp3 (H-110).