

# Arp2 (B-6): sc-376698

## 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 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 357-389 near the C-terminus of Arp2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376698 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

Arp2 (B-6) is recommended for detection of Arp2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Arp2 (B-6) 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.

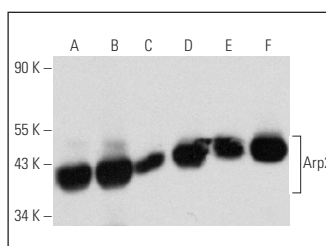
Molecular Weight of Arp2: 43 kDa.

Positive Controls: A-673 cell lysate: sc-2414, L8 cell lysate: sc-3807 or NIH/3T3 whole cell lysate: sc-2210.

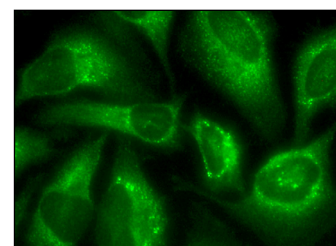
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Arp2 (B-6): sc-376698. Western blot analysis of Arp2 expression in A-673 (A), Hs 732.Sk/Mu (B), RAW 264.7 (C), NIH/3T3 (D), L8 (E) and A-10 (F) whole cell lysates.



Arp2 (B-6): sc-376698. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Mikhaylova, M., et al. 2018. Caldendrin directly couples postsynaptic calcium signals to Actin remodeling in dendritic spines. *Neuron* 97: 1110-1125.e14.
- Weeber, F., et al. 2019. Concerted regulation of Actin polymerization during constitutive secretion by Cortactin and PKD2. *J. Cell Sci.* 132: jcs232355.

## STORAGE

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

## 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) for detailed protocols and support products.