

# Arp2 (K-15): sc-10127

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

## SOURCE

Arp2 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-10127 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Arp2 (K-15) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Arp2 (K-15) 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.

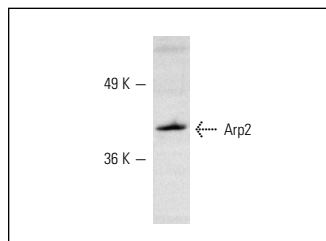
Molecular Weight of Arp2: 43 kDa.

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

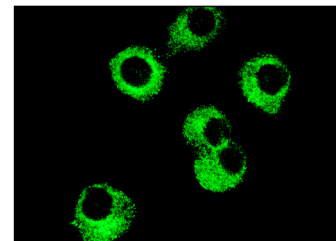
## STORAGE

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

## DATA



Arp2 (K-15): sc-10127. Western blot analysis of Arp2 expression in KNRK whole cell lysate.



Arp2 (K-15): sc-10127. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS

- Otsubo, T., et al. 2004. Involvement of Arp2/3 complex in the process of colorectal carcinogenesis. *Mod. Pathol.* 17: 461-467.
- Kratchmarova, I., et al. 2005. Mechanism of divergent growth factor effects in mesenchymal stem cell differentiation. *Science* 308: 1472-1477.
- Iwaya, K., et al. 2007. Coexpression of Arp2 and WAVE2 predicts poor outcome in invasive breast carcinoma. *Mod. Pathol.* 20: 339-343.
- Kimura, F., et al. 2010. Epidermal growth factor-dependent enhancement of invasiveness of squamous cell carcinoma of the breast. *Cancer Sci.* 101: 1133-1140.
- Hirooka, S., et al. 2011. Localization of the invadopodia-related proteins actinin-1 and cortactin to matrix-contact-side cytoplasm of cancer cells in surgically resected lung adenocarcinomas. *Pathobiology* 78: 10-23.

## 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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Satisfaction  
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Try **Arp2 (E-12): sc-166103** or **Arp2 (E-2): sc-137250**, our highly recommended monoclonal alternatives to Arp2 (K-15).