



Arp2 (h2): 293 Lysate: sc-176874

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.

REFERENCES

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3. Higgs, H.N. and Pollard, T.D. 1999. Regulation of Actin polymerization by Arp2/3 complex and WASP/SCAR proteins. *J. Biol. Chem.* 274: 32531-32534.
2. Bailly, M., et al. 1999. Relationship between Arp2/3 complex and the barbed ends of Actin filaments at the leading edge of carcinoma cells after epidermal growth factor stimulation. *J. Cell Biol.* 145: 331-345.
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CHROMOSOMAL LOCATION

Genetic locus: ACTR2 (human) mapping to 2p14.

PRODUCT

Arp2 (h2): 293 Lysate represents a lysate of human Arp2 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Arp2 (h2): 293 Lysate is suitable as a Western Blotting positive control for human reactive Arp2 antibodies. Recommended use: 10-20 µl per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.