

arfaptin 1 (H-69): sc-292562

BACKGROUND

ADP-ribosylation factors, or ARFs, enhance the ADP ribosyltransferase activity of cholera toxin and are implicated in vesicle transport between endoplasmic reticulum and the Golgi complex. Arfaptin 1 is recruited from the cytosol to Golgi membranes by ARFs in a guanosine 5-prime-O-(3-thiotriphosphate)-dependent and brefeldin A-sensitive manner but is not a constituent of coatomer. Arfaptin 1 binds to nonmyristoylated GTP-bound ARF3, but not to GDP-bound ARF3, and also to ARF1, another class I ARF. It binds with lower affinity to ARF5, a class II ARF, and with very little affinity to ARF6, a class III ARF. POR1 (also designated Arfaptin 2) was first isolated as a Rac 1 binding protein necessary for Rac mediated actin polymerization and the subsequent formation of membrane ruffles and lamellipodia. POR1 has also been shown to interact with the ADP ribosylation factor ARF6, a GTPase that associates with the plasma membrane and intracellular endosome vesicles, in a GTP dependent manner. The association of POR1 with ARF6 stimulates induction of actin polymerization. POR1 appears to play a regulatory role through multiple signaling pathways in the reorganization of the cytoskeletal structure.

REFERENCES

1. Joneson, T., et al. 1996. Rac regulation of Actin polymerization and proliferation by a pathway distinct from Jun kinase. *Science* 274: 1374-1376.
2. Van Aelst, L., et al. 1996. Identification of a novel Rac 1-interacting protein involved in membrane ruffling. *EMBO J.* 15: 3778-3786.
3. Kanoh, H., et al. 1997. Arfaptin 1, a putative cytosolic target protein of ADP-ribosylation factor, is recruited to Golgi membranes. *J. Biol. Chem.* 272: 5421-5429.
4. D'Souza-Schorey, C., et al. 1997. A role for POR1, a Rac 1-interacting protein, in ARF6-mediated cytoskeletal rearrangements. *EMBO J.* 16: 5445-5454.
5. D'Souza-Schorey, C., et al. 1998. ARF6 targets recycling vesicles to the plasma membrane: insights from an ultrastructural investigation. *J. Cell Biol.* 140: 603-616.
6. Gauthier-Rouviere, C., et al. 1998. RhoG GTPase controls a pathway that independently activates Rac 1 and Cdc42Hs. *Mol. Biol. Cell* 9: 1379-1394.

CHROMOSOMAL LOCATION

Genetic locus: ARFIP1 (human) mapping to 4q31.3; Arfip1 (mouse) mapping to 3 F1.

SOURCE

arfaptin 1 (H-69) is a rabbit polyclonal antibody raised against amino acids 1-69 mapping at the N-terminus of arfaptin 1 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.

RESEARCH USE

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

APPLICATIONS

arfaptin 1 (H-69) is recommended for detection of arfaptin 1 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).

arfaptin 1 (H-69) is also recommended for detection of arfaptin 1 in additional species, including bovine and canine.

Suitable for use as control antibody for arfaptin 1 siRNA (h): sc-41190, arfaptin 1 siRNA (m): sc-41191, arfaptin 1 shRNA Plasmid (h): sc-41190-SH, arfaptin 1 shRNA Plasmid (m): sc-41191-SH, arfaptin 1 shRNA (h) Lentiviral Particles: sc-41190-V and arfaptin 1 shRNA (m) Lentiviral Particles: sc-41191-V.

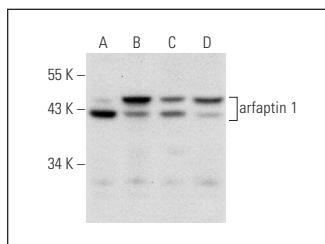
Molecular Weight of arfaptin 1: 44 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, JAR cell lysate: sc-2276 or K-562 whole cell lysate: sc-2203.

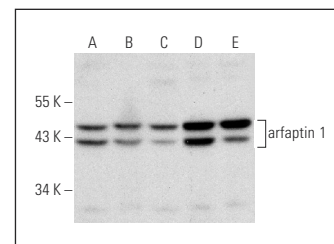
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



arfaptin 1 (H-69): sc-292562. Western blot analysis of arfaptin 1 expression in Jurkat (A), JAR (B), HL-60 (C) and Hep G2 (D) whole cell lysates.



arfaptin 1 (H-69): sc-292562. Western blot analysis of arfaptin 1 expression in HeLa (A), MCF7 (B), K-562 (C), Caki-1 (D) and SK-OV-3 (E) whole cell lysates.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.