

# arfaptin 1 (I-19): sc-19246

## 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'-O-(3-thiotriphosphate)-dependent and brefeldin A-sensitive manner but is not a constituent of coatamer. 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

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2. Van Aelst, L., Joneson, T. and Bar-Sagi, D. 1996. Identification of a novel Rac 1-interacting protein involved in membrane ruffling. *EMBO J.* 15: 3778-3786.
3. Kanoh, H., Williger, B.T. and Exton, J.H. 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., Boshans, R.L., McDonough, M., Stahl, P.D. and Van Aelst, L. 1997. A role for POR1, a Rac 1- interacting protein, in ARF6-mediated cytoskeletal rearrangements. *EMBO J.* 16: 5445-5454.
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6. Gauthier-Rouviere, C., Vignal, E., Meriane, M., Roux, P., Montcourier, P. and Fort, P. 1998. RhoG GTPase controls a pathway that independently activates Rac 1 and Cdc42Hs. *Mol. Biol. Cell.* 9: 1379-1394.
7. Radhakrishna, H., Al-Awar, O., Khachikian, Z. and Donaldson, J.G. 1999. ARF6 requirement for Rac ruffling suggests a role for membrane trafficking in cortical Actin rearrangements. *J. Cell Sci.* 112: 855-866.
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## CHROMOSOMAL LOCATION

Genetic locus: ARFIP1 (human) mapping to 4q31.3; Arfp1 (mouse) mapping to 3 F1.

## SOURCE

arfaptin 1 (I-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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.

Blocking peptide available for competition studies, sc-19246 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

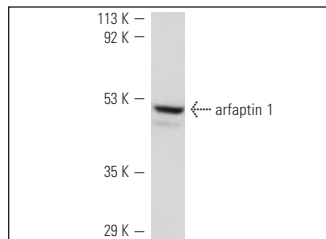
arfaptin 1 (I-19) is recommended for detection of arfaptin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence and immunohistochemistry (including 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).

Suitable for use as control antibody for arfaptin 1 siRNA (h): sc-41190 and arfaptin 1 siRNA (m): sc-41191.

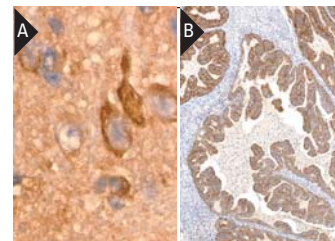
Molecular Weight of arfaptin 1: 44 kDa.

Positive Controls: JAR cell lysate: sc-2276 or mouse brain extract: sc-2253.

## DATA



arfaptin 1 (I-19): sc-19246. Western blot analysis of arfaptin 1 expression in JAR whole cell lysate.



arfaptin 1 (I-19): sc-19246. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue (A) showing membrane and cytoplasmic localization and immunoperoxidase staining of formalin fixed, paraffin-embedded human cervical cancer (B) showing cytoplasmic staining of tumor cells, kindly provided by The Swedish Human Protein Atlas (HPA) program.

## 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) or our catalog for detailed protocols and support products.