

# ARF (N-19): sc-7622

## BACKGROUND

The ADP-ribosylation factor (ARF) protein family are structurally and functionally conserved members of the Ras superfamily of regulatory GTP-binding proteins. ARFs influence vesicle trafficking and signal transduction in eukaryotic cells. ARF-dependent regulatory mechanisms include the coordination of spectrin interactions with Golgi membranes and the association of actin to the Golgi via rho family-dependent G-protein localization (Rac, CDC42) and WASP/Arp2/3 complexes. Additionally, ARFs play a central role in maintenance of organelle integrity, assembly of coat proteins, and activation of phospholipase D. The ARF proteins are categorized as class I (ARF1, ARF2, and ARF3), class II (ARF4 and ARF5) and class III (ARF6); members of each class share a common gene organization. The human ARF1 gene maps to chromosome 1q42.13, contains five exons and four introns, and encodes a 181 amino acid protein.

## REFERENCES

1. Randazzo, P.A., et al. 1994. The amino terminus of ADP-ribosylation factor (ARF) 1 is essential for interaction with G<sub>s</sub> and ARF GTPase-activating protein. *J. Biol. Chem.* 269: 29490-29494.
2. Amor, J.C., et al. 1994. Structure of the human ADP-ribosylation factor 1 complexed with GDP. *Nature* 372: 704-708.
3. Erickson, J.W., et al. 1996. Mammalian Cdc42 is a brefeldin A-sensitive component of the Golgi apparatus. *J. Biol. Chem.* 271: 26850-26854.
4. Godi, A., et al. 1998. ADP ribosylation factor regulates spectrin binding to the Golgi complex. *PNAS* 95: 8607-8612.
5. Fucini, R.V., et al. 2000. Activated ADP-ribosylation factor assembles distinct pools of actin on Golgi membranes. *J. Biol. Chem.* 275: 18824-18829.
6. Wu, W.J., et al. 2000. The  $\gamma$ -subunit of the coatomer complex binds Cdc42 to mediate transformation. *Nature* 405: 800-804.
7. Fucini, R.V., et al. 2002. Golgi vesicle proteins are linked to the assembly of an actin complex defined by mAbp1. *Mol. Biol. Cell* 13: 621-631.
8. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 103180. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
9. LocusLink Report (LocusID: 375). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## SOURCE

ARF (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ARF of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7622 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

ARF (N-19) is recommended for detection of ARF family GTP binding proteins of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ARF (N-19) is also recommended for detection of ARF family GTP binding proteins in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ARF siRNA (h): sc-29725, ARF siRNA (m): sc-29726, ARF shRNA Plasmid (h): sc-29725-SH, ARF shRNA Plasmid (m): sc-29726-SH, ARF shRNA (h) Lentiviral Particles: sc-29725-V and ARF shRNA (m) Lentiviral Particles: sc-29726-V.

Molecular Weight of ARF: 21 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Caki-1 cell lysate: sc-2224 or KNRK whole cell lysate: sc-2214.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Anthonio, E.A., et al. 2009. Small G proteins in peroxisome biogenesis: the potential involvement of ADP-ribosylation factor 6. *BMC Cell Biol.* 10: 58.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **ARF (ARFS 3F1): sc-53167**, our highly recommended monoclonal alternative to ARF (N-19).