SANTA CRUZ BIOTECHNOLOGY, INC.

ARFGAP1 (N-14): sc-70014



BACKGROUND

ARFGAP1 (ADP-ribosylation factor GTPase activating protein 1), also known as ARF1 GAP, is a 406 amino acid protein that contains one ARF-GAP domain and localizes to the cytoplasm and the Golgi apparatus. Functioning as a GTPase-activating protein (GAP), ARFGAP1 interacts with ARF1 and promotes hydrolysis of ARF1-bound GTP, an event that is required for both the dissociation of coat proteins from Golgi structures and for the subsequent fusion of Golgi vesicles with target compartments. When overexpressed, ARFGAP1, whose activity is inhibited by phosphatidylcholine and stimulated by phosphoinosides, can induce the redistribution of the entire Golgi apparatus to the endoplasmic reticulum. Multiple isoforms of ARFGAP1 exist due to alternative splicing events.

REFERENCES

- 1. Cukierman, E., Huber, I., Rotman, M. and Cassel, D. 1995. The ARF1 GTPase-activating protein: zinc finger motif and Golgi complex localization. Science 270: 1999-2002.
- 2. Zhang, C., Yu, Y., Zhang, S., Liu, M., Xing, G., Wei, H., Bi, J., Liu, X., Zhou, G., Dong, C., Hu, Z., Zhang, Y., Luo, L., Wu, C., Zhao, S. and He, F. 2000. Characterization, chromosomal assignment, and tissue expression of a novel human gene belonging to the ARF GAP family. Genomics 63: 400-408.
- 3. Majoul, I., Straub, M., Hell, S.W., Duden, R. and Söling, H.D. 2001. KDEL-cargo regulates interactions between proteins involved in COPI vesicle traffic: measurements in living cells using FRET. Dev. Cell 1: 139-153.
- 4. Yang, J.S., Lee, S.Y., Gao, M., Bourgoin, S., Randazzo, P.A., Premont, R.T. and Hsu, V.W. 2002. ARFGAP1 promotes the formation of COPI vesicles, suggesting function as a component of the coat. J. Cell Biol. 159: 69-78.
- 5. Bernards, A. and Settleman, J. 2004. GAP control: regulating the regulators of small GTPases. Trends Cell Biol. 14: 377-385.
- 6. Parnis, A., Rawet, M., Regev, L., Barkan, B., Rotman, M., Gaitner, M. and Cassel, D. 2006. Golgi localization determinants in ARFGAP1 and in new tissue-specific ARFGAP1 isoforms. J. Biol. Chem. 281: 3785-3792.
- 7. Natsume, W., Tanabe, K., Kon, S., Yoshida, N., Watanabe, T., Torii, T. and Satake, M. 2006. SMAP2, a novel ARF GTPase-activating protein, interacts with clathrin and clathrin assembly protein and functions on the AP-1-positive early endosome/trans-Golgi network. Mol. Biol. Cell 17: 2592-2603.
- 8. Lippincott-Schwartz, J. and Liu, W. 2006. Insights into COPI coat assembly and function in living cells. Trends Cell Biol. 16: e1-e4.
- 9. Luo, R. and Randazzo, P.A. 2008. Kinetic analysis of ARFGAP1 indicates a regulatory role for coatomer. J. Biol. Chem. 283: 21965-21977.

CHROMOSOMAL LOCATION

Genetic locus: ARFGAP1 (human) mapping to 20q13.33; Arfgap1 (mouse) mapping to 2 H4.

RESEARCH USE

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

SOURCE

ARFGAP1 (N-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of ARFGAP1 of human origin.

PRODUCT

Each vial contains 100 µg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-70014 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ARFGAP1 (N-14) is recommended for detection of ARFGAP1 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).

ARFGAP1 (N-14) is also recommended for detection of ARFGAP1 in additional species, including canine, bovine and avian.

Suitable for use as control antibody for ARFGAP1 siRNA (h): sc-72529, ARFGAP1 siRNA (m): sc-72530, ARFGAP1 shRNA Plasmid (h): sc-72529-SH, ARFGAP1 shRNA Plasmid (m): sc-72530-SH, ARFGAP1 shRNA (h) Lentiviral Particles: sc-72529-V and ARFGAP1 shRNA (m) Lentiviral Particles: sc-72530-V.

Molecular Weight of ARFGAP1: 45 kDa.

Positive Controls: mouse brain extract: sc-2253.

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 antirabbit 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) 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.

STORAGE

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



Try ARFGAP1 (C-4): sc-271303 or ARFGAP1/2/3 (F-3): sc-390955, our highly recommended monoclonal alternatives to ARFGAP1 (N-14).