

ACAP2 (E-9): sc-271355



The Power to Question

BACKGROUND

The ADP-ribosylation factor (ARF) family of small GTP-binding proteins are involved in vesicular transport regulation and in controlling cytoskeletal organization and cell adhesion. These proteins mainly regulate membrane traffic. ACAP2 is a member of the centaurin GTPase-activating protein (GAP) family, which comprises a subset of ARF regulatory molecules that transduce PI 3-kinase activation into coordinated control of ARF-dependent pathways. ACAP1 and ACAP2 are both widely expressed in peripheral, tubular membranes and usually interact with each other in various tissues. GAP activity of both ACAP1 and ACAP2 is dependent upon phosphatidylinositol 4,5-bisphosphate [PtdIns(4,5)P₂]. ACAP2 associates with ARF1 and ARF6. Overexpression of ACAP2 blocks the formation of ARF6-dependent protrusions. K1L is a protein required for growth of the Vaccinia Virus that interacts with the ankyrin repeats of ACAP2.

REFERENCES

1. Jackson, T.R., et al. 2000. ACAPs are ARF6 GTPase-activating proteins that function in the cell periphery. *J. Cell Biol.* 151: 627-638.
2. Furman, C., et al. 2002. DEF-1/ASAP1 is a GTPase-activating protein (GAP) for ARF1 that enhances cell motility through a GAP-dependent mechanism. *J. Biol. Chem.* 277: 7962-7969.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607766. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Thacker, E., et al. 2004. The ARF6 GAP Centaurin α 1 is a neuronal Actin-binding protein which also functions via GAP-independent activity to regulate the Actin cytoskeleton. *Eur. J. Cell Biol.* 83: 541-554.
5. Bradley, R.R., et al. 2005. Vaccinia virus K1L protein mediates host-range function in RK-13 cells via ankyrin repeat and may interact with a cellular GTPase-activating protein. *Virus Res.* 114: 104-112.
6. Jovanovic, O.A., et al. 2006. An effector domain mutant of ARF6 implicates phospholipase D in endosomal membrane recycling. *Mol. Biol. Cell* 17: 327-335.
7. Gizachew, D., et al. 2006. NMR structural studies of the myristoylated N-terminus of ADP ribosylation factor 6 (ARF6). *FEBS Lett.* 580: 4296-4301.
8. Hiroi, T., et al. 2006. GEP100/BRAG2: activator of ADP-ribosylation factor 6 for regulation of cell adhesion and Actin cytoskeleton via E-cadherin and α -catenin. *Proc. Natl. Acad. Sci. USA* 103: 10672-10677.

CHROMOSOMAL LOCATION

Genetic locus: ACAP2 (human) mapping to 3q29; Acap2 (mouse) mapping to 16 B2.

SOURCE

ACAP2 (E-9) is a mouse monoclonal antibody raised against amino acids 499-627 mapping near the C-terminus of ACAP2 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ACAP2 (E-9) is recommended for detection of ACAP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for ACAP2 siRNA (h): sc-60121, ACAP2 siRNA (m): sc-60122, ACAP2 shRNA Plasmid (h): sc-60121-SH, ACAP2 shRNA Plasmid (m): sc-60122-SH, ACAP2 shRNA (h) Lentiviral Particles: sc-60121-V and ACAP2 shRNA (m) Lentiviral Particles: sc-60122-V.

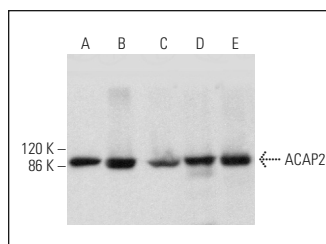
Molecular Weight of ACAP2: 88 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, 3611-RF whole cell lysate: sc-2215 or rat thymus extract: sc-2401.

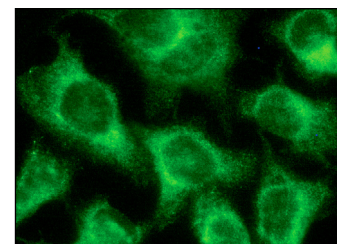
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ACAP2 (E-9): sc-271355. Western blot analysis of ACAP2 expression in Jurkat (A), ALL-SIL (B), TK-1 (C) and 3611-RF (D) whole cell lysates and rat thymus tissue extract (E).



ACAP2 (E-9): sc-271355. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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 for detailed protocols and support products.