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ACAP1 (m): 293T Lysate: sc-124913

BACKGROUND

ACAP1, also designated Centaurin- β 1 (CENTB1 or Cnt-b1), is a member of the ADP ribosylation factor family of Arf6 GTPase-activating proteins (GAP). GAPs are important regulators of Arf function by controlling the return of Arf to its inactive state. ACAP1 is related to AGAP1 and ASAP1, and all three proteins are similarly expressed in fibroblast cells such as NIH/3T3. Internalization and recycling of integrin receptors is important in cell adhesion and migration modulation, and once inside a cell, proteins and membranes are transported to the endosome where they are sorted for recycling or degradation. ACAP1 promotes cargo sorting by associating directly to recycling cargo proteins. Preventing this interaction inhibits protein recycling. ACAP1 binds transferrin receptors, promoting their transport to the plasma membrane from the endosome. Akt induced phosphorylation of ACAP1 at Ser 554 regulates ACAP1 interaction to integrin in endosomes, and downregulation of Akt or ACAP1 may inhibit cell migration on Fibronectin.

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. Nie, Z., et al. 2003. Specific regulation of the adaptor protein complex AP-3 by the Arf GAP AGAP1. *Dev. Cell* 5: 513-521.
4. Dai, J., et al. 2004. ACAP1 promotes endocytic recycling by recognizing recycling sorting signals. *Dev. Cell.* 7: 771-776.
5. Ivaska, J., et al. 2005. PKC ϵ -mediated phosphorylation of Vimentin controls integrin recycling and motility. *EMBO J.* 24: 3834-3845.
6. Li, J., et al. 2005. Phosphorylation of ACAP1 by Akt regulates the stimulation-dependent recycling of Integrin β 1 to control cell migration. *Dev. Cell.* 9: 663-673.
7. SWISS-PROT/TrEMBL (Q15027). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: Centb1 (mouse) mapping to 11B3.

PRODUCT

ACAP1 (m): 293T Lysate represents a lysate of mouse ACAP1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

ACAP1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ACAP1 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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