

Centaurin α 1 (F-9): sc-398839

BACKGROUND

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 are best characterized as regulators of membrane traffic. The Centaurin GTPase-activating protein family comprise a subset of ARF regulatory molecules that transduce PI 3-kinase activation into coordinated control of Arf-dependent pathways. This family includes ASAP1, ACAP1, ACAP2, AGAP1, ARAP1, ARAP2, Centaurin α 1 and Centaurin γ 3. The Centaurin α 1 protein is a high affinity PtdIns(3,4,5)P₃ binding protein enriched in brain. By acting as a GTPase activating protein for ADP ribosylation factor 6 (ARF6), Centaurin α 1 is able to switch off ARF6 and inhibit its ability to mediate β_2 -adrenoceptor internalization and negatively regulate ARF6 activity by functioning as an *in vivo* PIP3 dependent ARF6 GAP.

REFERENCES

1. Hawadle, M.A., et al. 2002. Cytohesins and Centaurins control subcellular trafficking of macromolecular signaling complexes: regulation by phosphoinositides and ADP-ribosylation factors. *Biol. Res.* 35: 247-265.
2. 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.
3. Venkateswarlu, K., et al. 2004. Centaurin α 1 is an *in vivo* phosphatidylinositol 3,4,5-trisphosphate-dependent GTPase-activating protein for ARF6 that is involved in Actin cytoskeleton organization. *J. Biol. Chem.* 279: 6205-6208.
4. Venkateswarlu, K., et al. 2005. Centaurin α 1 interacts directly with kinesin motor protein KIF13B. *J. Cell Sci.* 118: 2471-2484.
5. Kanamarlapudi, V. 2005. Centaurin α 1 and KIF13B kinesin motor protein interaction in ARF6 signalling. *Biochem. Soc. Trans.* 33: 1279-1281.

CHROMOSOMAL LOCATION

Genetic locus: ADAP1 (human) mapping to 7p22.3; Adap1 (mouse) mapping to 5 G2.

SOURCE

Centaurin α 1 (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 44-61 near the N-terminus of Centaurin α 1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-398839 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Centaurin α 1 (F-9) is recommended for detection of Centaurin α 1 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 Centaurin α 1 siRNA (h): sc-60357, Centaurin α 1 siRNA (m): sc-60358, Centaurin α 1 shRNA Plasmid (h): sc-60357-SH, Centaurin α 1 shRNA Plasmid (m): sc-60358-SH, Centaurin α 1 shRNA (h) Lentiviral Particles: sc-60357-V and Centaurin α 1 shRNA (m) Lentiviral Particles: sc-60358-V.

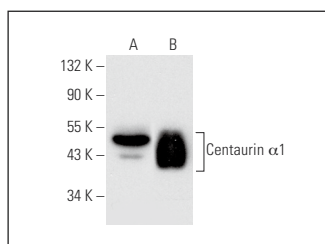
Molecular Weight of Centaurin α 1: 42 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176, human brain extract: sc-364375 or human hippocampus tissue extract.

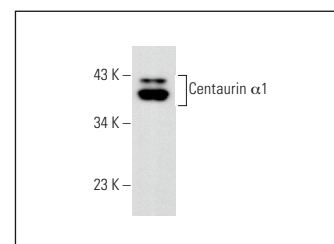
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



Centaurin α 1 (F-9): sc-398839. Western blot analysis of Centaurin α 1 expression in U-251-MG whole cell lysate (A) and human hippocampus tissue extract (B).



Centaurin α 1 (F-9): sc-398839. Western blot analysis of Centaurin α 1 expression in human brain tissue extract.

SELECT PRODUCT CITATIONS

1. Di Girolamo, D., et al. 2016. Reciprocal interplay between thyroid hormone and microRNA-21 regulates hedgehog pathway-driven skin tumorigenesis. *J. Clin. Invest.* 126: 2308-2320.

RESEARCH USE

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