

Centaurin α 1 (H-176): sc-366051

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

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- 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.
- Venkateswarlu, K., et al. 2005. Centaurin- α 1 interacts directly with kinesin motor protein KIF13B. *J. Cell Sci.* 118: 2471-2484.
- Kanamarlapudi, V. 2005. Centaurin- α 1 and KIF13B kinesin motor protein interaction in ARF6 signalling. *Biochem. Soc. Trans.* 33: 1279-1281.
- Lawrence, J., et al. 2005. Centaurin- α 1, an ADP-ribosylation factor 6 GTPase activating protein, inhibits β 2-adrenoceptor internalization. *Mol. Pharmacol.* 67: 1822-1828.
- Hayashi, H., et al. 2006. Centaurin- α 1 is a phosphatidyl ERK1/2 mitogen-activated protein kinases. *J. Biol. Chem.* 281: 1332-1337.

CHROMOSOMAL LOCATION

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

SOURCE

Centaurin α 1 (H-176) is a rabbit polyclonal antibody raised against amino acids 199-374 mapping at the C-terminus of Centaurin α 1 of human origin.

PRODUCT

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

RESEARCH USE

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

APPLICATIONS

Centaurin α 1 (H-176) is recommended for detection of Centaurin α 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Centaurin α 1 (H-176) is also recommended for detection of Centaurin α 1 in additional species, including canine, bovine, porcine and avian.

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.

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 anti-rabbit 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

PROTOCOLS

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