# Centaurin $\alpha$ 2 (S-20): sc-55360



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. 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  $\alpha$ 1, Centaurin  $\gamma$ 3 and the recently discovered Centaurin  $\alpha$ 2. Expressed in a wide variety of tissues such as fat, heart and skeletal muscle, Centaurin  $\alpha$ 2 is thought to negatively regulate ARF-mediated Actin rearrangement by binding activated PI 3-kinase. Although the exact function of Centaurin  $\alpha$ 2 is not yet known, its high sequence similarity with Centaurin  $\alpha$ 1 suggests that it may also act as an ARF6 GTPase.

# **REFERENCES**

- Dubois, T., Kerai, P., Zemlickova, E., Howell, S., Jackson, T.R., Venkateswarlu, K., Cullen, P.J., Theibert, A.B., Larose, L., Roach, P.J. and Aitken, A. 2001. Casein kinase I associates with members of the Centaurin-α family of phosphatidylinositol 3,4,5-trisphosphate-binding proteins. J. Biol. Chem. 276: 18757-18764.
- Whitley, P., Gibbard, A.M., Koumanov, F., Oldfield, S., Kilgour, E.E., Prestwich, G.D. and Holman, G.D. 2002. Identification of Centaurin-α2: a phosphatidylinositide-binding protein present in fat, heart and skeletal muscle. Eur. J. Cell Biol. 81: 222-230.
- 3. Hawadle, M.A., Folarin, N., Martin, R. and Jackson, T.R. 2002. Cytohesins and centaurins control subcellular trafficking of macromolecular signaling complexes: regulation by phosphoinositides and ADP-ribosylation factors. Biol. Res. 35: 247-265.
- 4. Hanck, T., Stricker, R., Sedehizade, F. and Reiser, G. 2003. Identification of gene structure and subcellular localization of human Centaurin  $\alpha$ 2, and p42IP4, a family of two highly homologous, Ins 1,3,4,5-P4-/PtdIns 3,4,5-P3-binding, adapter proteins. J. Neurochem. 88: 326-336.
- 5. Thacker, E., Kearns, B., Chapman, C., Hammond, J., Howell, A. and Theibert, A. 2005. The ARF6 GAP Centaurin  $\alpha$ -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.
- Venturin, M., Bentivegna, A., Moroni, R., Larizza, L. and Riva, P. 2005.
  Evidence by expression analysis of candidate genes for congenital heart defects in the NF1 microdeletion interval. Ann. Hum. Genet. 69: 508-516.
- 7. Venkateswarlu, K., Brandom, K.G. and Yun, H. 2007. Pl 3-kinase-dependent membrane recruitment of Centaurin- $\alpha 2$  is essential for its effect on ARF6-mediated Actin cytoskeleton reorganisation. J. Cell Sci. 120: 792-801.

# **CHROMOSOMAL LOCATION**

Genetic locus: Centa2 (mouse) mapping to 11 B5.

### **STORAGE**

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

#### **SOURCE**

Centaurin  $\alpha 2$  (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Centaurin  $\alpha 2$  of mouse origin.

#### **PRODUCT**

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

Blocking peptide available for competition studies, sc-55360 P, ( $100 \mu g$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## **APPLICATIONS**

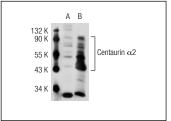
Centaurin  $\alpha$ 2 (S-20) is recommended for detection of Centaurin  $\alpha$ 2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Centaurin  $\alpha$ 2 (S-20) is also recommended for detection of Centaurin  $\alpha$ 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Centaurin  $\alpha$ 2 siRNA (m): sc-62093; and as shRNA Plasmid control antibody for Centaurin  $\alpha$ 2 shRNA Plasmid (m): sc-62093-SH.

Molecular Weight of Centaurin α2: 44 kDa.

#### **DATA**



Centaurin  $\alpha$ 2 (S-20): sc-55360. Western blot analysis of Centaurin  $\alpha$ 2 expression in non-transfected: sc-117752 (**A**) and human Centaurin  $\alpha$ 2 transfected: sc-115111 (**B**) 293T whole cell Ivsates.

# **RESEARCH USE**

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

## **PROTOCOLS**

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

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