SANTA CRUZ BIOTECHNOLOGY, INC.

Centaurin α2 siRNA (h): sc-62092

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 α1, Centaurin γ3 and the recently discovered Centaurin α2. Expressed in a wide variety of tissues such as fat, heart and skeletal muscle, Centaurin α2 is thought to negatively regulate ARF-mediated actin rearrangement by binding activated PI 3-kinase. Although the exact function of Centaurin α2 is not yet known, its high sequence similarity with Centaurin α1 suggests that it may also act as an ARF6 GTPase.

REFERENCES

1. Dubois, T., et al. 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.
2. Whitley, P., et al. 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., 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.
4. Hanck, T., et al. 2003. Identification of gene structure and subcellular localization of human centaurin α2, 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., et al. 2005. 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.

CHROMOSOMAL LOCATION

Genetic locus: ADAP2 (human) mapping to 17q11.2.

PRODUCT

Centaurin α2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Centaurin α2 shRNA Plasmid (h): sc-62092-SH and Centaurin α2 shRNA (h) Lentiviral Particles: sc-62092-V as alternate gene silencing products.

For independent verification of Centaurin α2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62092A, sc-62092B and sc-62092C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Centaurin α2 siRNA (h) is recommended for the inhibition of Centaurin α2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Centaurin α2 (F-4): sc-514510 is recommended as a control antibody for monitoring of Centaurin α2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Centaurin α2 gene expression knockdown using RT-PCR Primer: Centaurin α2 (h)-PR: sc-62092-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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