SANTA CRUZ BIOTECHNOLOGY, INC.

Centaurin β5 siRNA (h): sc-88151

BACKGROUND

ADP-ribosylation factor (ARF) family of small GTP-binding proteins are involved in vesicular transport regulation and controlling cytoskeletal organization and cell adhesion. These proteins are best characterized as regulators of membrane trafficking. 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. Centaurin β5, also known as ACAP3 (Arf-GAP with coiled-coil, ANK repeat and PH domain-containing protein 3), is an 834 amino acid protein that contains three ANK repeats, one Arf-GAP domain and one PH domain. Predominantly expressed in the nervous system, mutations in the gene encoding Centaurin β5 may be related to epilepsy and neurodegenerative processes. There are three isoforms of Centaurin β5 that are produced as a result of alternative splicing events.

REFERENCES

1. Kam, J.L., et al. 2000. Phosphoinositide-dependent activation of the ADP-ribosylation factor GTPase-activating protein ASAP1. Evidence for the pleckstrin homology domain functioning as an allosteric site. J. Biol. Chem. 275: 9653-9663.
2. Randazzo, P.A., et al. 2004. Arf GAPs: multifunctional proteins that regulate membrane traffic and actin remodelling. Cell. Signal. 16: 401-413.
3. Randazzo, P.A., et al. 2007. Arf GAPs as regulators of the Actin cytoskeleton. Biol. Cell 99: 583-600.
4. Moore, C.D., et al. 2007. The neuronal Arf GAP centaurin α1 modulates dendritic differentiation. J. Cell Sci. 120: 2683-2693.
5. Inoue, H., et al. 2007. Arf GAPs and their interacting proteins. Traffic 8: 1465-1475.

CHROMOSOMAL LOCATION

Genetic locus: ACAP3 (human) mapping to 1p36.33.

PRODUCT

Centaurin β5 siRNA (h) is a pool of 2 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 β5 shRNA Plasmid (h): sc-88151-SH and Centaurin β5 shRNA (h) Lentiviral Particles: sc-88151-V as alternate gene silencing products.

For independent verification of Centaurin β5 (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-88151A and sc-88151B.

RESEARCH USE

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

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 β5 siRNA (h) is recommended for the inhibition of Centaurin β5 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Centaurin β5 gene expression knockdown using RT-PCR Primer: Centaurin β5 (h)-PR: sc-88151-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.