SANTA CRUZ BIOTECHNOLOGY, INC.

ACBD3 siRNA (m): sc-105029

BACKGROUND

ACBD3 (Acyl-CoA-binding domain-containing protein 3), also known as GCP60 (Golgi resident protein GCP60), GOCAP1, PAP7 or GOLPH1, is a Golgi apparatus membrane protein that contains one ACB (acyl-CoA-binding) domain and one GOLD (Golgi dynamics) domain which is essential for its interaction with other proteins. Expressed ubiquitously with highest expression in ovary and testes, ACBD3 is responsible for maintaining Golgi structure and, through binding to Giantin (golgin subfamily B member 1), functions to mediate protein transport between the Golgi and the endoplasmic reticulum (ER). Changes in the subcellular location of ACBD3 trigger signaling cascades within the Golgi that regulate cell fate and cell cycle progression. Additionally, ACBD3 is thought to act as a peripheral-type benzodiazepine receptor-associated protein, possibly playing a role in hormonal regulation and steroid formation.

REFERENCES

1. Li, H., et al. 2001. Identification, localization, and function in steroidogenesis of PAP7: a peripheral-type benzodiazepine receptor- and PKA (RIα)-associated protein. Mol. Endocrinol. 15: 2211-2228.
2. Sohda, M., et al. 2001. Identification and characterization of a novel Golgi protein, GCP60, that interacts with the integral membrane protein giantin. J. Biol. Chem. 276: 45298-45306.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606809. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Liu, J., et al. 2003. Molecular cloning, genomic organization, chromosomal mapping and subcellular localization of mouse PAP7: a PBR and PKA-RIα associated protein. Gene 308: 1-10.
5. Sbodio, J.I., et al. 2006. GCP60 preferentially interacts with a caspase generated golgin-160 fragment. J. Biol. Chem. 281: 27924-27931.
6. Cheah, J.H., et al. 2006. NMDA receptor-nitric oxide transmission mediates neuronal iron homeostasis via the GTPase Dexras1. Neuron 51: 431-440.

CHROMOSOMAL LOCATION

Genetic locus: Acbd3 (mouse) mapping to 1 H4.

PRODUCT

ACBD3 siRNA (m) 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 ACBD3 shRNA Plasmid (m): sc-105029-SH and ACBD3 shRNA (m) Lentiviral Particles: sc-105029-V as alternate gene silencing products.

For independent verification of ACBD3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-105029A, sc-105029B and sc-105029C.

RESEARCH USE

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

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

ACBD3 siRNA (m) is recommended for the inhibition of ACBD3 expression in mouse 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

ACBD3 (518): sc-101277 is recommended as a control antibody for monitoring of ACBD3 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 ACBD3 gene expression knockdown using RT-PCR Primer: ACBD3 (m)-PR: sc-105029-PR (20 µl, 480 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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