SANTA CRUZ BIOTECHNOLOGY, INC.

RMDN3 siRNA (h): sc-90038

BACKGROUND

RMD3 (regulator of microtubule dynamics protein 3), also known as FAM82A2 (family with sequence similarity 82, member A2), FAM82C, PTPIP51 (protein tyrosine phosphatase-interacting protein 51) or cerebral protein 10, is a 470 amino acid protein belonging to the FAM82/RMD family that may play a role in differentiation and apoptosis of keratinocytes. In addition to exhibiting nuclear and mitochondrial membrane localization, RMDN3 also localizes to cytoplasm during interphase and spindle microtubules and spindle poles during mitosis. While widely expressed, RMDN3 is found at high levels in epidermis, seminiferous epithelium and fast twitch fibers of skeletal muscle. RMDN3 has also been found in hippocampal neurons, axons of the peripheral nervous system and ganglion cells of the autonomic nervous system. RMDN3 may function as a cellular signaling partner in angiogenesis and vascular remodeling, and overexpression of RMDN3 is known to induce apoptosis.

REFERENCES

1. Stenzinger, A., et al. 2005. The novel protein PTPIP51 exhibits tissue- and cell-specific expression. Histochem. Cell Biol. 123: 19-28.
2. Lv, B.F., et al. 2006. Protein tyrosine phosphatase interacting protein 51 (PTPIP51) is a novel mitochondria protein with an N-terminal mitochondrial targeting sequence and induces apoptosis. Apoptosis 11: 1489-1501.
3. Oishi, K., et al. 2007. RMD-1, a novel microtubule-associated protein, functions in chromosome segregation in *Caenorhabditis elegans*. J. Cell Biol. 179: 1149-1162.
4. Koch, P., et al. 2008. The novel protein PTPIP51 is expressed in human keratinocyte carcinomas and their surrounding stroma. J. Cell. Mol. Med. 12: 2083-2095.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611873. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Barop, J., et al. 2009. Differentiation-dependent PTPIP51 expression in human skeletal muscle cell culture. J. Histochem. Cytochem. 57: 425-435.

CHROMOSOMAL LOCATION

Genetic locus: RMDN3 (human) mapping to 15q15.1.

PRODUCT

RMDN3 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 RMDN3 shRNA Plasmid (h): sc-90038-SH and RMDN3 shRNA (h) Lentiviral Particles: sc-90038-V as alternate gene silencing products.

For independent verification of RMDN3 (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-90038A, sc-90038B and sc-90038C.

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

RMDN3 siRNA (h) is recommended for the inhibition of RMDN3 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 RMDN3 gene expression knockdown using RT-PCR Primer: RMDN3 (h)-PR: sc-90038-PR (20 µl). 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.