SANTA CRUZ BIOTECHNOLOGY, INC.

PLEKHM1 siRNA (h): sc-93882

BACKGROUND

PLEKHM1 (Pleckstrin homology domain-containing family M member 1), also known as 162 kDa adapter protein, is a 779 amino acid protein that contains two Pleckstrin homology (PH) domains, which are found in proteins that are involved in intracellular signaling. PLEKHM1 is located in the cytoplasm where it is involved in osteoclast vesicular transport and is therefore an essential protein for bone resorption. Individuals having defects in PLEKHM1 are afflicted with osteopetrosis autosomal recessive type 6 (OPTB6), a rare genetic disease that is characterized by abnormally dense bone due to ineffective bone resorption. Specifically, it is likely that mutations in the PLEKHM1 gene affect endosomal acidification/maturation and TRACP exocytosis, which has implications on osteoclast-osteoblast cross-talk.

REFERENCES

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3. Frattini, A., et al. 2007. The dissection of human autosomal recessive osteopetrosis identifies an osteoclast-poor form due to RANKL deficiency. Cell Cycle 6: 3027-3033.
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6. Del Fattore, A., et al. 2008. Genetics, pathogenesis and complications of osteopetrosis. Bone 42: 19-29.
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8. Villa, A., et al. 2009. Infantile malignant, autosomal recessive osteopetrosis: the rich and the poor. Calcif. Tissue Int. 84: 1-12.
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CHROMOSOMAL LOCATION

Genetic locus: PLEKHM1 (human) mapping to 17q21.31.

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.

PRODUCT

PLEKHM1 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 PLEKHM1 shRNA Plasmid (h): sc-93882-SH and PLEKHM1 shRNA (h) Lentiviral Particles: sc-93882-V as alternate gene silencing products.

For independent verification of PLEKHM1 (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-93882A and sc-93882B.

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

PLEKHM1 siRNA (h) is recommended for the inhibition of PLEKHM1 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 PLEKHM1 gene expression knockdown using RT-PCR Primer: PLEKHM1 (h)-PR: sc-93882-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.