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SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 7 siRNA (h): sc-44931

BACKGROUND

Peroxisomes are single-membrane bound organelles present in virtually all eukaryotic cells. They are involved in numerous catabolic and anabolic pathways, including β-oxidation of very long chain fatty acids, metabolism of hydrogen peroxide, plasmalogen biosynthesis and bile acid synthesis. The Peroxin gene family, which includes more than 20 members, is required for peroxisome biogenesis. Two members of this family, Peroxin 5 (Pex5) and Peroxin 7 (Pex7), are receptors for proteins that contain the peroxisome targeting signal 1 (PTS1) and 2 (PTS2), respectively, and shuttle these proteins from the cytosol to the peroxisome. Peroxin 7, also designated PTS2 receptor, requires interaction with Peroxin 13 (Pex13) and Peroxin 14 (Pex14) for proper peroxisomal transport. Mutations in the Peroxin genes result in peroxisome biogenesis disorders (PBDs). Defects in the Pex7 gene, which maps to chromosome 6q23.3 in human, are linked to rhizomelic chondrodysplasia punctata (RCDP) of complementation group 11 (CG11). RCDP is an autosomal recessive disease characterized by proximal limb shortening, severely disturbed endochondrial bone formation and mental retardation.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PEX7 (human) mapping to 6q23.3.

RESEARCH USE

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

PRODUCT

Peroxin 7 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 Peroxin 7 shRNA Plasmid (h): sc-44931-SH and Peroxin 7 shRNA (h) Lentiviral Particles: sc-44931-V as alternate gene silencing products.

For independent verification of Peroxin 7 (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-44931A, sc-44931B and sc-44931C.

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

Peroxin 7 siRNA (h) is recommended for the inhibition of Peroxin 7 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 Peroxin 7 gene expression knockdown using RT-PCR Primer: Peroxin 7 (h)-PR: sc-44931-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.