

Peroxin 2 siRNA (h): sc-44929

BACKGROUND

Peroxisomes 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. Peroxins are proteins involved in peroxisome biogenesis. The peroxisome biogenesis factor Peroxin 2 (also designated Pex2) is an integral membrane protein of peroxisomes. Defects in the PXMP3 gene encoding Peroxin 2 are the cause of Zellweger syndrome-1 (ZWS-1), an autosomal recessive disorder due to defective import mechanisms for peroxisomal matrix enzymes. ZWS-1 is a severe form of the peroxisome-biogenesis disorders, a group of genetically heterogeneous, lethal diseases that are characterized by neuronal, hepatic and renal abnormalities, mental retardation and, in their most severe form, death within the first year of life.

REFERENCES

1. Shimozawa, N., et al. 1992. A human gene responsible for Zellweger syndrome that affects peroxisome assembly. *Science* 255: 1132-1134.
2. Erdmann, R., et al. 1995. Giant peroxisomes in oleic acid-induced *Saccharomyces cerevisiae* lacking the peroxisomal membrane protein PMP27p. *J. Cell Biol.* 128: 509-523.
3. Marshall, P.A., et al. 1995. Pmp27 promotes peroxisomal proliferation. *J. Cell Biol.* 129: 345-355.
4. Harano, T., et al. 1999. Transmembrane topology of the Peroxin, Pex2p, an essential component for the peroxisome assembly. *J. Biochem.* 125: 1168-1174.
5. Biermanns, M., et al. 2000. Genomic organization and characterization of human Pex2 encoding a 35 kDa peroxisomal membrane protein. *Biochem. Biophys. Res. Commun.* 273: 985-990.

CHROMOSOMAL LOCATION

Genetic locus: PEX2 (human) mapping to 8q21.11.

PRODUCT

Peroxin 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Peroxin 2 shRNA Plasmid (h): sc-44929-SH and Peroxin 2 shRNA (h) Lentiviral Particles: sc-44929-V as alternate gene silencing products.

For independent verification of Peroxin 2 (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-44929A, sc-44929B and sc-44929C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Peroxin 2 siRNA (h) is recommended for the inhibition of Peroxin 2 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 μ M in 66 μ l. 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 2 gene expression knockdown using RT-PCR Primer: Peroxin 2 (h)-PR: sc-44929-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.