

## Peroxin 2 siRNA (m): sc-44930

### BACKGROUND

Peroxisomes are involved in numerous catabolic and anabolic pathways, including  $\beta$ -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: Pxmp3 (mouse) mapping to 3 A1.

### PRODUCT

Peroxin 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Peroxin 2 shRNA Plasmid (m): sc-44930-SH and Peroxin 2 shRNA (m) Lentiviral Particles: sc-44930-V as alternate gene silencing products.

For independent verification of Peroxin 2 (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-44930A, sc-44930B and sc-44930C.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

Peroxin 2 siRNA (m) is recommended for the inhibition of Peroxin 2 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  $\mu$ M in 66  $\mu$ 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 (m)-PR: sc-44930-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.