SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 6 siRNA (m): sc-62776

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. One such member of the Peroxin gene family is Peroxin 6. Of 11 mutations identified in the gene Pex6, most led to premature termination or large deletions of the Peroxin 6 protein and resulted in the most severe peroxisome biogenesis disorder phenotype of Zellweger syndrome, a disorder associated with major deformations.

REFERENCES

1. Shimozawa, N., et al. 1993. Standardization of complementation grouping of peroxisome-deficient disorders and the second Zellweger patient with peroxisomal assembly factor-1 (PAF-1) defect. Am. J. Hum. Genet. 52: 843-844.
2. Tsukamoto, T., et al. 1995. Peroxisome assembly factor-2, a putative ATPase cloned by functional complementation on a peroxisome-deficient mammalian cell mutant. Nat. Genet. 11: 395-401.
3. Moser, A.B., et al. 1995. Phenotype of patients with peroxisomal disorders subdivided into sixteen complementation groups. J. Pediatr. 127: 13-22.
4. Fukuda, S., et al. 1996. Human peroxisome assembly factor-2 (PAF-2): a gene responsible for group C peroxisome biogenesis disorder in humans. Am. J. Hum. Genet. 59: 1210-1220.
5. Distel, B., et al. 1996. A unified nomenclature for peroxisome biogenesis factors. J. Cell Biol. 135: 1-3.
6. Miyata, N., et al. 2005. Shuttling mechanism of peroxisome targeting signal type 1 receptor Pex5: ATP-independent import and ATP-dependent export. Mol. Cell. Biol. 25: 10822-10832.
7. Krazy, H., et al. 2006. Identification and characterization of three peroxins—PEX6, PEX10 and PEX12—involved in glycosome biogenesis in *Trypanosoma brucei*. Biochim. Biophys. Acta 1763: 6-17.

CHROMOSOMAL LOCATION

Genetic locus: Pex6 (mouse) mapping to 17 C.

PRODUCT

Peroxin 6 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Peroxin 6 shRNA Plasmid (m): sc-62776-SH and Peroxin 6 shRNA (m) Lentiviral Particles: sc-62776-V as alternate gene silencing products.

For independent verification of Peroxin 6 (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-62776A, sc-62776B and sc-62776C.

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 6 siRNA (m) is recommended for the inhibition of Peroxin 6 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 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.

GENE EXPRESSION MONITORING

Peroxin 6 (F-6): sc-271813 is recommended as a control antibody for monitoring of Peroxin 6 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Peroxin 6 gene expression knockdown using RT-PCR Primer: Peroxin 6 (m)-PR: sc-62776-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.