SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 26 siRNA (m): sc-62774

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The Power to Question

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. Peroxin 26, also known as PEX26 (Peroxisome assembly protein 26) is a widely expressed protein that functions to recruit, shuttle and anchor Peroxin 1 and Peroxin 6 to the peroxisome membrane, thus allowing the formation of heteromeric AAA ATPase complexes. Once formed, the ATPase complexes are able to import various proteins, such as catalase, into peroxisomes. Proper import of these peroxisomal proteins is essential for normal development. Defects in the gene encoding Peroxin 26 are the cause of multiple peroxisome-related disorders, including Zellweger syndrome (ZWS), infantile Refsum disease (IRD) and peroxisome biogenesis disorder complementation group 8 (PBD-CG8).

REFERENCES

1. Matsumoto, N., et al. 2003. The pathogenic peroxin Pex26p recruits the Pex1p-Pex6p AAA ATPase complexes to peroxisomes. Nat. Cell Biol. 5: 454-460.
2. Matsumoto, N., et al. 2003. Mutations in novel peroxin gene PEX26 that cause peroxisome-biogenesis disorders of complementation group 8 provide a genotype-phenotype correlation. Am. J. Hum. Genet. 73: 233-246.
3. Steinberg, S., et al. 2004. The PEX Gene Screen: molecular diagnosis of peroxisome biogenesis disorders in the Zellweger syndrome spectrum. Mol. Genet. Metab. 83: 252-263.
4. Miyata, N. and Fujiki, Y. 2005. Shuttling mechanism of peroxisome targeting signal type 1 receptor Pex5: ATP-independent import and ATP-dependent export. Mol. Cell. Biol. 25: 10822-10832.
5. Weller, S., et al. 2005. Alternative splicing suggests extended function of PEX26 in peroxisome biogenesis. Am. J. Hum. Genet. 76: 987-1007.
6. Furuki, S., et al. 2006. Mutations in the peroxin Pex26p responsible for peroxisome biogenesis disorders of complementation group 8 impair its stability, peroxisomal localization, and interaction with the Pex1p x Pex6p complex. J. Biol. Chem. 281: 1317-1323.

CHROMOSOMAL LOCATION

Genetic locus: Pex26 (mouse) mapping to 6 F1.

PRODUCT

Peroxin 26 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 26 shRNA Plasmid (m): sc-62774-SH and Peroxin 26 shRNA (m) Lentiviral Particles: sc-62774-V as alternate gene silencing products.

For independent verification of Peroxin 26 (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-62774A, sc-62774B and sc-62774C.

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 26 siRNA (m) is recommended for the inhibition of Peroxin 26 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 26 (A-9): sc-376817 is recommended as a control antibody for monitoring of Peroxin 26 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 26 gene expression knockdown using RT-PCR Primer: Peroxin 26 (m)-PR: sc-62774-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.