SANTA CRUZ BIOTECHNOLOGY, INC.

Peroxin 19 siRNA (h): sc-44925

BACKGROUND

The covalent attachment of prenyl lipids, such as farnesyl or geranylgeranyl groups, by specific transferases is indispensable for the cellular sorting of many proteins. A farnesylated protein, Peroxin 19 (peroxisomal farnesylated protein, PxF or HK33), localizes to the outer surface of peroxisomes. Specifically, Peroxin 19 localizes to the cytoplasmic surface of peroxisomes in liver cells. Peroxin 19 is the human homolog of Pex19p, an oleic acid-inducible, farnesylated protein that is essential for peroxisome biogenesis in *Saccharomyces cerevisiae*. The carboxy-terminal part of Peroxin 19, including the CAAX homology box, is required for its biologic function. Moreover, Peroxin 19 is apparently involved in the initial stage of peroxisome membrane assembly, before the import of matrix protein. The gene which encodes Peroxin 19 is a housekeeping gene and maps to human chromosome 1q23.2. This is the causative gene for complementation group J peroxisome biogenesis disorder.

REFERENCES

1. James, G.L., Goldstein, J.L., Pathak, R.K., Anderson, R.G. and Brown, M.S. 1994. PxF, a prenylated protein of peroxisomes. J. Biol. Chem. 269: 14182-14190.
2. Kammerer, S., Arnold, N., Gutensohn, W., Mewes, H.W., Kunau, W.H., Hofler, G., Roscher, A.A. and Braun, A. 1997. Genomic organization and molecular characterization of a gene encoding HsPXF, a human peroxisomal farnesylated protein. Genomics 45: 200-210.
3. Gotte, K., Girzalsky, W., Linkert, M., Baumgart, E., Kammerer, S., Kunau, W.H. and Erdmann, R. 1998. Pex19p, a farnesylated protein essential for peroxisome biogenesis. Mol. Cell. Biol. 18: 616-628.
4. Kinoshita, N., Ghaedi, K., Shimozawa, N., Wanders, R.J., Matsuzono, Y., Imanaka, T., Okumoto, K., Suzuki, Y., Kondo, N. and Fujiki, Y. 1998. Newly identified Chinese hamster ovary cell mutants are defective in biogenesis of peroxisomal membrane vesicles (peroxisomal ghosts), representing a novel complementation group in mammals. J. Biol. Chem. 273: 24122-24130.
5. Matsuzono, Y., Kinoshita, N., Tamura, S., Shimozawa, N., Hamasaki, M., Ghaedi, K., Wanders, R.J., Suzuki, Y., Kondo, N. and Fujiki, Y. 1999. Human Pex19: cDNA cloning by functional complementation, mutation analysis in a patient with Zellweger syndrome, and potential role in peroxisomal membrane assembly. Proc. Natl. Acad. Sci. USA 96: 2116-2121.

CHROMOSOMAL LOCATION

Genetic locus: PEX19 (human) mapping to 1q23.2.

PRODUCT

Peroxin 19 siRNA (h) is a target-specific 19-25 nt siRNA 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 19 shRNA Plasmid (h): sc-44925-SH and Peroxin 19 shRNA (h) Lentiviral Particles: sc-44925-V as alternate gene silencing 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 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 19 siRNA (h) is recommended for the inhibition of Peroxin 19 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.

GENE EXPRESSION MONITORING

Peroxin 19 (2E4): sc-517578 is recommended as a control antibody for monitoring of Peroxin 19 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 19 gene expression knockdown using RT-PCR Primer: Peroxin 19 (h)-PR: sc-44925-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.