SANTA CRUZ BIOTECHNOLOGY, INC.

PSAPL1 siRNA (h): sc-106859

BACKGROUND

The saposin family includes four structurally related activator proteins, saposin A, B, C and D, that are cleaved from the single precursor protein prosaposin. Prosaposin is synthesized as a protein that is post-translationally modified to a shorter form and then further glycosylated to yield a secretory product. This form subsequently undergoes partial proteolysis to produce saposin A, B, C and D. Each saposin family member acts in conjunction with hydrolase enzymes to facilitate the breakdown of glycosphingolipids within the lysosome. PSAPL1 (prosaposin-like 1) is a 521 secreted protein that contains two saposin A-type domains and four saposin B-type domains. It is suggested that PSAPL1 may activate the lysosomal degradation of sphingolipids. The gene encoding PSAPL1 is located on chromosome 4p16.1, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

REFERENCES

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3. Tatti, M., et al. 1999. Structural and membrane-binding properties of saposin D. Eur. J. Biochem. 263: 486-494.
4. Zhao, Q. and Morales, C.R. 2000. Identification of a novel sequence involved in lysosomal sorting of the sphingolipid activator protein prosaposin. J. Biol. Chem. 275: 24829-24839.
5. Koochekpour, S., et al. 2005. Amplification and overexpression of prosaposin in prostate cancer. Genes Chromosomes Cancer 44: 351-364.
6. Ni, X., et al. 2006. The sorting and trafficking of lysosomal proteins. Histol. Histopathol. 21: 899-913.
7. Hosoda, Y., et al. 2007. Distribution of prosaposin in the rat nervous system. Cell Tissue Res. 330: 197-207.
8. Koochekpour, S., et al. 2007. Prosaposin is a novel androgen-regulated gene in prostate cancer cell line LNCaP. J. Cell. Biochem. 101: 631-641.

CHROMOSOMAL LOCATION

Genetic locus: PSAPL1 (human) mapping to 4p16.1.

PRODUCT

PSAPL1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PSAPL1 shRNA Plasmid (h): sc-106859-SH and PSAPL1 shRNA (h) Lentiviral Particles: sc-106859-V as alternate gene silencing products.

For independent verification of PSAPL1 (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-106859A, sc-106859B and sc-106859C.

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

PSAPL1 siRNA (h) is recommended for the inhibition of PSAPL1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PSAPL1 gene expression knockdown using RT-PCR Primer: PSAPL1 (h)-PR: sc-106859-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.