SANTA CRUZ BIOTECHNOLOGY, INC.

Napsin A siRNA (m): sc-61153

BACKGROUND

Napsin A is an aspartic proteinase that belongs to the peptidase A1 family and plays a role in pneumocyte surfactant processing. It is a 420-amino acid polypeptide consisting of a 24-residue signal peptide, a 40-amino acid propart, the mature enzyme of 336 amino acids, and a C-terminal extension of 18 residues. The mature Napsin A protein contains 3 predicted disulfide bonds, 3 potential N-linked oligosaccharide attachment sites, an RGD motif, a recognition motif for integrin binding, in the C terminus, immediately before a 4-amino acid insert that is unique to aspartic proteinases. Highest levels of Napsin A have been detected in adult lung (type II pneumocytes), fetal lung, and kidney tissues. Napsin A is also expressed at lower levels in adult spleen and at very low levels in peripheral blood leukocytes. Human napsin A shares 72.6% sequence identity with the mouse homolog.

REFERENCES

1. Tatnell, P.J., et al. 1999. Napsins: new human aspartic proteinases. Distinction between two closely related genes. FEBS Lett. 441: 43-48.
2. Chuman, Y., et al. 1999. Napsin A, a member of the aspartic protease family, is abundantly expressed in normal lung and kidney tissue and is expressed in lung adenocarcinomas. FEBS Lett. 462: 129-134.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605631. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Higashiyama, M., et al. 2004. Surgical treatment of bone metastasis followed by a primary lung cancer lesion: report of a case. Surg. Today 34: 600-605.
5. Inamura, K., et al. 2005. Pulmonary adenocarcinomas with enteric differentiation: histologic and immunohistochemical characteristics compared with metastatic colorectal cancers and usual pulmonary adenocarcinomas. Am. J. Surg. Pathol. 29: 660-665.

CHROMOSOMAL LOCATION

Genetic locus: Napsa (mouse) mapping to 7 B4.

PRODUCT

Napsin A 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 Napsin A shRNA Plasmid (m): sc-61153-SH and Napsin A shRNA (m) Lentiviral Particles: sc-61153-V as alternate gene silencing products.

For independent verification of Napsin A (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-61153A, sc-61153B and sc-61153C.

PROTOCOLS

See our web site at 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 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

Napsin A siRNA (m) is recommended for the inhibition of Napsin A 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

Napsin A (10C4B8): sc-517223 is recommended as a control antibody for monitoring of Napsin A 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Napsin A gene expression knockdown using RT-PCR Primer: Napsin A (m)-PR: sc-61153-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.