SANTA CRUZ BIOTECHNOLOGY, INC.

PLUNC siRNA (h): sc-39299

BACKGROUND

The upper respiratory tract is the main place of entry for pathogens to invade the body, and early recognition of bacterial products in this region is crucial for host defense. Palate lung nasal epithelial clone PLUNC (or LUNX) is an airway specific secretory protein that is expressed in epithelial tissues and submucosal glands of the oral cavity and upper respiratory tract of humans, mice, rats and bovine. PLUNC binds to lipopolysaccharide (LPS) in nasal lavage fluid (NLF) which points to its role in the inflammatory response of the upper airways after exposure to irritants. Decreased levels of PLUNC occur in the NLF of smokers and people who have been exposed to reactive epoxy chemicals, indicating that long-term exposure to airway irritants impairs the production of PLUNC in the upper respiratory tract. Abnormal expression of PLUNC may influence susceptibility to nasopharyngeal carcinoma in the Chinese population.

REFERENCES

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4. Da Lee, R., et al. 2004. Differential gene profiles in developing embryo and fetus after in utero exposure to ethanol. J. Toxicol. Environ. Health Part A 67: 2073-2084.
5. Ghafouri, B., et al. 2004. PLUNC in human nasal lavage fluid: multiple isoforms that bind to lipopolysaccharide. Biochim. Biophys. Acta 1699: 57-63.
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7. Geetha, C., et al. 2005. Design and validation of anti-inflammatory peptides from human parotid secretory protein. J. Dent. Res. 84: 149-153.
8. Larsen, K., et al. 2005. Porcine SPLUNC1: molecular cloning, characterization and expression analysis. Biochim. Biophys. Acta 1727: 220-226.

CHROMOSOMAL LOCATION

Genetic locus: PLUNC (human) mapping to 20q11.21.

PRODUCT

PLUNC 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 PLUNC shRNA Plasmid (h): sc-39299-SH and PLUNC shRNA (h) Lentiviral Particles: sc-39299-V as alternate gene silencing products.

For independent verification of PLUNC (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-39299A, sc-39299B and sc-39299C.

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

PLUNC siRNA (h) is recommended for the inhibition of PLUNC 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

PLUNC (A-11): sc-271457 is recommended as a control antibody for monitoring of PLUNC 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 PLUNC gene expression knockdown using RT-PCR Primer: PLUNC (h)-PR: sc-39299-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.