SANTA CRUZ BIOTECHNOLOGY, INC.

UGRP1 siRNA (h): sc-61754

BACKGROUND

Uteroglobin-related protein 1 (UGRP1) is a 93 amino acid secretory protein that is mainly expressed in lung Clara-like epithelial cells, with low levels of expression in the thyroid. The homodimeric UGRP1 may play an anti-inflammatory role in lung inflammation, though the mechanism is still unknown. A macrophage scavenger receptor with collagenous structure (MARCO) acts as a receptor for UGRP1 and may be involved in pathogen clearance in the lung. UGRP1 has a binding site for bacterial lipopolysaccharide (LPS). It is down-regulated in antigen-induced inflamed airways, such as allergic asthma, but is upregulated in cystic fibrosis, and interleukin-9 and interleukin-5 modulate UGRP1 expression. UGRP1 may be a therapeutic candidate for treating various sources of lung inflammation.

REFERENCES

1. Niimi, T., et al. 2001. UGRP1, a uteroglobin/Clara cell secretory protein-related protein, is a novel lung-enriched downstream target gene for the T/EBP/NKX2.1 homeodomain transcription factor. Mol. Endocrinol. 15: 2021-2036.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606531. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Bin, L.H., et al. 2003. Identification of uteroglobin-related protein 1 and macrophage scavenger receptor with collagenous structure as a lung-specific ligand-receptor pair. J. Immunol. 171: 924-930.
4. Chiba, Y., et al. 2004. Decreased expression of uteroglobin-related protein 1 in inflamed mouse airways is mediated by IL-9. Am. J. Physiol. Lung Cell. Mol. Physiol. 287: L1193-L1198.
5. Chiba, Y., et al. 2004. Interleukin-5 reduces the expression of uteroglobin-related protein (UGRP) 1 gene in allergic airway inflammation. Immunol. Lett. 97: 123-129.
6. Srisodsai, A., et al. 2004. Interleukin-10 induces uteroglobin-related protein (UGRP) 1 gene expression in lung epithelial cells through homeodomain transcription factor T/EBP/NKX2.1. J. Biol. Chem. 279: 54358-54368.

CHROMOSOMAL LOCATION

Genetic locus: SCGB3A2 (human) mapping to 5q32.

PRODUCT

UGRP1 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 UGRP1 shRNA Plasmid (h): sc-61754-SH and UGRP1 shRNA (h) Lentiviral Particles: sc-61754-V as alternate gene silencing products.

For independent verification of UGRP1 (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-61754A, sc-61754B and sc-61754C.

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

UGRP1 siRNA (h) is recommended for the inhibition of UGRP1 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

UGRP1 (1B2): sc-517117 is recommended as a control antibody for monitoring of UGRP1 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 UGRP1 gene expression knockdown using RT-PCR Primer: UGRP1 (h)-PR: sc-61754-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.