SANTA CRUZ BIOTECHNOLOGY, INC.

UGRP2 siRNA (m): sc-61757

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The Power to Question

BACKGROUND

Uteroglobin proteins (UGRPs) are members of the uteroglobin/Clara cell secretory protein family, officially termed secretoglobins, that bind specifically to progesterone with high affinity. UGRP functions to regulate the concentration of progesterone that is targeting the blastocyst. UGRP2, also referred to as high in normal-1 (HIN-1) or secretoglobin 3A1, acts as a potential growth inhibitory cytokine and is highly expressed in the human trachea, followed by salivary gland, lung and mammary gland. Expression of UGRP2 is increased by retinoic acid, thereby causing mucinous differentiation in primary human bronchial epithelial cells. UGRP2 may also have a role in regulating the terminally differentiated proximal epithelial airway. UGRP2 expression is enhanced by interleukin (IL)-4 and IL-13 through Stat6 binding to the proximal Stat-binding element that resides in the promoter of the UGRP2 gene. Mutations in the UGRP2 gene, especially silencing with methylation, are found in the majority of breast carcinomas.

REFERENCES

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3. Silver, D.P., et al. 2003. HIN-1 and the nosology of breast cancer. Cancer Biol. Ther. 2: 564-565.
4. Krop, I., et al. 2004. Frequent HIN-1 promoter methylation and lack of expression in multiple human tumor types. Mol. Cancer Res. 2: 489-494.
5. Marchetti, A., et al. 2004. Down regulation of high in normal-1 (HIN-1) is a frequent event in stage I non-small cell lung cancer and correlates with poor clinical outcome. Clin. Cancer Res. 10: 1338-1343.
6. Lehmann, U., et al. 2005. Distinct methylation patterns of benign and malignant liver tumors revealed by quantitative methylation profiling. Clin. Cancer Res. 11: 3654-3660.
7. Shigematsu, H., et al. 2005. Aberrant methylation of HIN-1 (high in normal-1) is a frequent event in many human malignancies. Int. J. Cancer 113: 600-604.
8. Yamada, A. and Kimura, S. 2005. Induction of uteroglobin-related protein 2 (UGRP2) expression by EGF and TGFα. FEBS Lett. 579: 2221-2225.
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CHROMOSOMAL LOCATION

Genetic locus: Scgb3a1 (mouse) mapping to 11 B1.2.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

UGRP2 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 UGRP2 shRNA Plasmid (m): sc-61757-SH and UGRP2 shRNA (m) Lentiviral Particles: sc-61757-V as alternate gene silencing products.

For independent verification of UGRP2 (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-61757A, sc-61757B and sc-61757C.

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

UGRP2 siRNA (m) is recommended for the inhibition of UGRP2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor UGRP2 gene expression knockdown using RT-PCR Primer: UGRP2 (m)-PR: sc-61757-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.