SANTA CRUZ BIOTECHNOLOGY, INC.

Uroguanylin siRNA (h): sc-44592

BACKGROUND

The family of guanylin regulatory peptides, including guanylin and Uroguanylin, are strongly expressed in intestinal mucosa and regulate intestinal fluid secretion during digestion. Guanylins are also involved in acid neutralization and the regulation of membrane-bound guanylate cyclase signaling molecules. Guanylin and Uroguanylin are secreted primarily in the stomach, intestine and colon. Uroguanylin is an endogenous activator of intestinal guanylate cyclase. It is a paracrine and/or autocrine regulator of intestinal water and salt transport. Uroguanylin stimulates intestinal guanylate cyclase through the same receptor binding region as the heat-stable enterotoxins. Uroguanylin is involved in the regulation of intestinal fluid and electrolyte transport.

REFERENCES

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2. Hess, R., et al. 1995. GCAP-II: isolation and characterization of the circulating form of human Uroguanylin. FEBS Lett. 374: 34-38.
3. Hill, O., et al. 1995. A new human guanylate cyclase-activating peptide (GCAP-II, Uroguanylin): precursor cDNA and colonic expression. Biochim. Biophys. Acta 1253: 146-149.
4. Miyazato, M., et al. 1996. Cloning and characterization of a cDNA encoding a precursor for human Uroguanylin. Biochem. Biophys. Res. Commun. 219: 644-648.
5. Marx, U.C., et al. 1998. One peptide, two topologies: structure and interconversion dynamics of human Uroguanylin isomers. J. Pept. Res. 52: 229-240.
6. Forte, L.R., et al. 2000. Guanylin peptides: renal actions mediated by cyclic GMP. Am. J. Physiol. Renal. Physiol. 278: F180-F191.
7. Strausberg, R.L., et al. 2002. Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. Proc. Natl. Acad. Sci. USA 99: 16899-16903.

CHROMOSOMAL LOCATION

Genetic locus: GUCA2B (human) mapping to 1p34.2.

PRODUCT

Uroguanylin 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 Uroguanylin shRNA Plasmid (h): sc-44592-SH and Uroguanylin shRNA (h) Lentiviral Particles: sc-44592-V as alternate gene silencing products.

For independent verification of Uroguanylin (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-44592A, sc-44592B and sc-44592C.

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

Uroguanylin siRNA (h) is recommended for the inhibition of Uroguanylin 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 Uroguanylin gene expression knockdown using RT-PCR Primer: Uroguanylin (h)-PR: sc-44592-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.