

UT-A siRNA (h): sc-76876

BACKGROUND

Water balance is tightly regulated in the kidneys. Through urinary concentration mechanisms, the kidney prevents the unnecessary excrement of water, thereby protecting the body from dehydration. UT-A (urea transporter, kidney), also known as SLC14A2 and HUT2, is a 920 amino acid multi-pass membrane protein that functions as a specialized low-affinity vasopressin-regulated urea-transporter. Expressed in the inner medulla of the kidney and localized to the apical membrane, UT-A mediates rapid transepithelial urea transport across the inner medullary collecting duct. There are two isoforms of UT-A that are produced as a result of alternative splicing events. Isoform 1 interacts with Snapin, a SNARE-associated protein, which is thought to help in its recruitment to the plasma membrane. Interestingly, isoform 1 expression is induced by low protein in the diet, whereas isoform 2 expression is induced by dehydration.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: SLC14A2 (human) mapping to 18q12.3.

PRODUCT

UT-A 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see UT-A shRNA Plasmid (h): sc-76876-SH and UT-A shRNA (h) Lentiviral Particles: sc-76876-V as alternate gene silencing products.

For independent verification of UT-A (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-76876A, sc-76876B and sc-76876C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

UT-A siRNA (h) is recommended for the inhibition of UT-A 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 μ M in 66 μ l. 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 UT-A gene expression knockdown using RT-PCR Primer: UT-A (h)-PR: sc-76876-PR (20 μ l). 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.