

AQP6 siRNA (h): sc-42365

BACKGROUND

AQP6 (also designated AQP2L) is a 282 amino acid protein that localizes to intracellular membranes in renal epithelia. Aquaporins (AQPs) are a large family of integral membrane water transport channel proteins that facilitate the transport of water through the cell membrane. This function is conserved in animals, plants and bacteria. Many isoforms of aquaporin have been identified in mammals, designated AQP0 through AQP10. Aquaporins are widely distributed; it is not uncommon for more than one type of AQP to be present in the same cell. Although most aquaporins are permeable only to water, AQP3, AQP7, AQP9 and one of the two AQP10 transcripts are also permeable to urea and glycerol. Aquaporins are involved in renal water absorption, generation of pulmonary secretions, lacrimation and the secretion and reabsorption of cerebrospinal fluid and aqueous humor. AQP6 may contribute to glomerular filtration, tubular endocytosis and acid-base metabolism.

REFERENCES

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8. Ikeda, M., et al. 2002. Characterization of aquaporin 6 as a nitrate channel in mammalian cells. Requirement of pore-lining residue Threonine 63. *J. Biol. Chem.* 277: 39873-39879.
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CHROMOSOMAL LOCATION

Genetic locus: AQP6 (human) mapping to 12q13.12.

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.

PRODUCT

AQP6 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 AQP6 shRNA Plasmid (h): sc-42365-SH and AQP6 shRNA (h) Lentiviral Particles: sc-42365-V as alternate gene silencing products.

For independent verification of AQP6 (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-42365A, sc-42365B and sc-42365C.

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

AQP6 siRNA (h) is recommended for the inhibition of AQP6 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 AQP6 gene expression knockdown using RT-PCR Primer: AQP6 (h)-PR: sc-42365-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.