SANTA CRUZ BIOTECHNOLOGY, INC.

VIT32 siRNA (h): sc-90358

BACKGROUND

Vasopressin (AVP), an antidiuretic hormone, is a cyclic nonpeptide that is involved in the regulation of body fluid osmolality. Vasopressin participates in the metabolism of water and electrolytes and has been identified as a vasoconstrictor. VIT32 (vasopressin-induced transcript 32), also known as VIP32, PP5395 or AVPI1 (arginine vasopressin-induced 1), is a 147 amino acid protein that may play a role in MAP kinase activation, epithelial sodium channel (ENaC) down-regulation and cell cycling. When coexpressed with epithelial sodium channel in *Xenopus laevis* oocytes, VIT32 inhibits Na^+ transport in the collecting duct of kidney and in lung epithelia. The gene encoding VIT32 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Ruppert, S., et al. 1984. Recent gene conversion involving bovine vasopressin and oxytocin precursor genes suggested by nucleotide sequence. Nature 308: 554-557.
2. Doris, P.A. 1984. Vasopressin and central integrative processes. Neuroendocrinology 38: 75-85.
3. Abercrombie, D.M., et al. 1984. Cooperative interactions in neurophysin-neuropeptide hormone complexes. Analytical affinity chromatography of native and covalently-modified neurophysins. Int. J. Pept. Protein Res. 24: 218-232.
4. Alimova-Kost, M.V., et al. 1998. Assignment1 of phosphotriesterase-related gene (PTER) to human chromosome band 10p12 by *in situ* hybridization. Cytogenet. Cell Genet. 83: 16-17.
5. Birnbaumer, M. 1999. Vasopressin receptor mutations and nephrogenic diabetes insipidus. Arch. Med. Res. 30: 465-474.
6. Thomas, C.P., et al. 2004. AVP-induced VIT32 gene expression in collecting duct cells occurs via trans-activation of a CRE in the 5'-flanking region of the VIT32 gene. Am. J. Physiol. Renal Physiol. 287: F460-F468.
7. Nonneman, D. and Rohrer, G.A. 2004. Comparative mapping of human chromosome 10 to pig chromosomes 10 and 14. Anim. Genet. 35: 338-343.

CHROMOSOMAL LOCATION

Genetic locus: AVPI1 (human) mapping to 10q24.2.

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

VIT32 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 VIT32 shRNA Plasmid (h): sc-90358-SH and VIT32 shRNA (h) Lentiviral Particles: sc-90358-V as alternate gene silencing products.

For independent verification of VIT32 (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-90358A, sc-90358B and sc-90358C.

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

VIT32 siRNA (h) is recommended for the inhibition of VIT32 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 VIT32 gene expression knockdown using RT-PCR Primer: VIT32 (h)-PR: sc-90358-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.