SANTA CRUZ BIOTECHNOLOGY, INC.

AVP Receptor V2 siRNA (h): sc-40275

BACKGROUND

Vasopressin (AVP), the antidiuretic hormone, is a cyclic nonpeptide that is involved in the regulation of body fluid osmolality. AVP mediates its effects through a family of G protein-coupled receptors, the vasopressin receptors type V1a, V2 and V3 (also designated V1b). The AVP receptor V1a is responsible for several functions, including blood vessel constriction, liver glycogenolysis and platelet adhesion. It is detected as a full length protein and a shorter protein, which results from proteolytic cleavage of its amino-terminus. The V1a receptor is coupled to $G_{q/11}$ protein, which increases the intracellular calcium concentration. The human AVP receptor V2 gene maps to chromosome Xq28 and is expressed in lung and kidney. Mutations in the V2 receptor result in nephrogenic diabetes insipidus (NDI), a rare X-linked disorder characterized by the inability of the kidney to concentrate urine in response to AVP. The AVP Receptor V2 activates the G_s protein and the cyclic AMP second messenger system. The AVP Receptor V3 is preferentially expressed in the pituitary and stimulates the release of adrenocorticotropic hormone (ACTH) in response to AVP by mobilizing intracellular calcium stores. AVP receptor antagonists may have potential therapeutic effects in hypertension, congestive heart failure, nephrotic syndrome and ACTH-secreting tumors.

REFERENCES

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4. Phalipou, S., et al. 1997. Mapping peptide-binding domains of the human V1a vasopressin receptor with a photoactivatable linear peptide antagonist. J. Biol. Chem. 272: 26536-26544.
5. Mircic, G.M., et al. 1998. Hormones of the posterior region of the hypophyseal gland. Srp. Arh. Celok. Lek. 126: 111-118.
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CHROMOSOMAL LOCATION

Genetic locus: Avpr2 (human) mapping to Xq28.

PROTOCOLS

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

PRODUCT

AVP Receptor V2 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 AVP Receptor V2 shRNA Plasmid (h): sc-40275-SH and AVP Receptor V2 shRNA (h) Lentiviral Particles: sc-40275-V as alternate gene silencing products.

For independent verification of AVP Receptor V2 (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-40275A, sc-40275B and sc-40275C.

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

AVP Receptor V2 siRNA (h) is recommended for the inhibition of AVP Receptor V2 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 AVP Receptor V2 gene expression knockdown using RT-PCR Primer: AVP Receptor V2 (h)-PR: sc-40275-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.