

urocortin II siRNA (h): sc-106676

BACKGROUND

Urocortins I, II and III are the mammalian homologs of fish urotensin I. Mammalian urocortin is a member of the corticotropin-releasing hormone (CRH) family that is expressed in a region of the rat midbrain. The distinct expression pattern in discrete brain regions suggests that it influences such behavior as feeding, anxiety, and auditory processing. Synthetic human urocortin binds with high affinity to CRH receptors and acts *in vitro* to release ACTH from dispersed rat anterior pituitary cells. It is suggested that urocortin may be an endogenous CRF-like factor in the brain responsible for the effects of stress on appetite. The gene which encodes urocortin maps to human chromosome 2. Specifically, urocortin II is a specific ligand for CRF type 2 receptor which mediates stress-coping responses. Human urocortin I and II are expressed in the human heart. Urocortin II is also expressed in the pituitary gland, adrenal gland, GI tract, ovary, spleen, brain and kidney.

REFERENCES

1. Vaughan, J., et al. 1995. The mammalian neuropeptide urocortin, related to fish urotensin I and to corticotropin-releasing factor. *Nature* 378: 287-292.
2. Donaldson, C.J., et al. 1996. Cloning and characterization of human urocortin. *Endocrinology* 137: 2167-2170.
3. Spina, M., et al. 1996. Appetite-suppressing effects of urocortin, a CRF-related neuropeptide. *Science* 273: 1561-1564.
4. Ames, R.S., et al. 1999. Human urotensin-II is a potent vasoconstrictor and agonist for the orphan receptor GPR14. *Nature* 401: 282-286.

CHROMOSOMAL LOCATION

Genetic locus: UCN2 (human) mapping to 3p21.31.

PRODUCT

urocortin II 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 urocortin II shRNA Plasmid (h): sc-106676-SH and urocortin II shRNA (h) Lentiviral Particles: sc-106676-V as alternate gene silencing products.

For independent verification of urocortin II (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-106676A, sc-106676B and sc-106676C.

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

urocortin II siRNA (h) is recommended for the inhibition of urocortin II 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.

GENE EXPRESSION MONITORING

urocortin II (A): sc-517452 is recommended as a control antibody for monitoring of urocortin II gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor urocortin II gene expression knockdown using RT-PCR Primer: urocortin II (h)-PR: sc-106676-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Rodriguez, J.A., et al. 2015. Diminished expression of CRHR2 in human colon cancer promotes tumor growth and EMT via persistent IL-6/Stat3 signaling. *Cell. Mol. Gastroenterol. Hepatol.* 1: 610-630.

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.