

urocortin III siRNA (m): sc-39402

BACKGROUND

Urocortins 1, 2 and 3 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 III is a specific ligand for CRF type 2 receptor which mediates stress-coping responses. Human urocortin I and III are expressed in the human heart. Urocortin III 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.
5. Hsu, S.Y., et al. 2001. Human stresscopin and stresscopin-related peptide are selective ligands for the type 2 corticotropin-releasing hormone receptor. *Nat. Med.* 7: 605-611.
6. Vetter, D.E., et al. 2002. Urocortin-deficient mice show hearing impairment and increased anxiety-like behavior. *Nat. Genet.* 31: 363-369.
7. Takahashi, K., et al. 2004. Urocortins as cardiovascular peptides. *Peptides* 25: 1723-1731.

CHROMOSOMAL LOCATION

Genetic locus: Ucn3 (mouse) mapping to 13 A1.

PRODUCT

urocortin III siRNA (m) 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 III shRNA Plasmid (m): sc-39402-SH and urocortin III shRNA (m) Lentiviral Particles: sc-39402-V as alternate gene silencing products.

For independent verification of urocortin III (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-39402A, sc-39402B and sc-39402C.

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 III siRNA (m) is recommended for the inhibition of urocortin III expression in mouse 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 III (C3): sc-517449 is recommended as a control antibody for monitoring of urocortin III 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 III gene expression knockdown using RT-PCR Primer: urocortin III (m)-PR: sc-39402-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.