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- Expressversand

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# MCH-2R siRNA (h): sc-42019

## BACKGROUND

Melanin-concentrating hormone (MCH) is a 19 amino acid cyclic neuropeptide, which is mainly expressed in the hypothalamus. MCH modulates feeding behavior, aggression, anxiety, arousal and reproductive function in mammals by controlling the release of luteinizing hormone (LH). MCH mediates its effects through two melanin-concentrating hormone receptors, MCH-1R (also designated SLC-1) and MCH-2R, whose genes map to human chromosomes 22q13.3 and 6q16.2, respectively. MCH-2R is expressed in several regions of the brain, including the arcuate nucleus and the ventral medial hypothalamus, and upon binding to MCH, MCH-2R signals primarily through the  $G_{\alpha q}$  protein. MCH is also implicated in stimulating leptin expression and secretion in adipocytes, which suggests that the melanin-concentrating hormone and its receptors may be potential targets for modulating obesity.

## REFERENCES

1. Saito, Y., et al. 1999. Molecular characterization of the melanin-concentrating-hormone receptor. *Nature* 400: 265-269.
2. Hervieu, G.J., et al. 2000. The distribution of the mRNA and protein products of the melanin-concentrating hormone (MCH) receptor gene, SLC-1, in the central nervous system of the rat. *Eur. J. Neurosci.* 12: 1194-1216.
3. Murray, J.F., et al. 2000. The influence of gonadal steroids on pre-pro melanin-concentrating hormone mRNA in female rats. *J. Neuroendocrinol.* 12: 53-59.
4. Murray, J.F., et al. 2000. Melanin-concentrating hormone, melanocortin receptors and regulation of luteinizing hormone release. *J. Neuroendocrinol.* 12: 217-223.
5. Bradley, R.L., et al. 2000. Melanin-concentrating hormone regulates leptin synthesis and secretion in rat adipocytes. *Diabetes* 49: 1073-1077.
6. Sailer, A.W., et al. 2001. Identification and characterization of a second melanin-concentrating hormone receptor, MCH-2R. *Proc. Natl. Acad. Sci. USA* 98: 7564-7569.
7. An, S., et al. 2001. Identification and characterization of a melanin-concentrating hormone receptor. *Proc. Natl. Acad. Sci. USA* 98: 7576-7581.

## CHROMOSOMAL LOCATION

Genetic locus: MCHR2 (human) mapping to 6q16.2.

## PRODUCT

MCH-2R 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MCH-2R shRNA Plasmid (h): sc-42019-SH and MCH-2R shRNA (h) Lentiviral Particles: sc-42019-V as alternate gene silencing products.

For independent verification of MCH-2R (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-42019A, sc-42019B and sc-42019C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

MCH-2R siRNA (h) is recommended for the inhibition of MCH-2R 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  $\mu$ M in 66  $\mu$ 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 MCH-2R gene expression knockdown using RT-PCR Primer: MCH-2R (h)-PR: sc-42019-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.