

# Obox6 siRNA (m): sc-150165

## BACKGROUND

Obox6 (oocyte specific homeobox 6) is a 347 amino acid murine protein that belongs to the Obox family of homeobox proteins, which includes Obox1, Obox3 and Obox5. Expressed preferentially in germ cells, Obox6 is thought to play an important role in normal embryogenesis and may be required for fertility. The gene encoding Obox6 maps to mouse chromosome 7, which houses over 1,800 genes and is the third largest murine chromosome. Containing genes that encode liver enzymes, Selenoproteins and olfactory receptors (Olfrs), chromosome 7 is associated with the regulation of body composition, as well as with the pathogenesis of myotonic dystrophy, motor neuron degeneration and the appearance of the albino phenotype.

## REFERENCES

1. Saunders, A.M. and Seldin, M.F. 1990. A molecular genetic linkage map of mouse chromosome 7. *Genomics* 8: 525-535.
2. Rajkovic, A., et al. 2002. Obox, a family of homeobox genes preferentially expressed in germ cells. *Genomics* 79: 711-717.
3. Gray, P.A., et al. 2004. Mouse brain organization revealed through direct genome-scale TF expression analysis. *Science* 306: 2255-2257.
4. Cheng, W.C., et al. 2007. Mice lacking the Obox6 homeobox gene undergo normal early embryonic development and are fertile. *Dev. Dyn.* 236: 2636-2642.
5. Gopinath, S., et al. 2007. A novel locus for distal motor neuron degeneration maps to chromosome 7q34-q36. *Hum. Genet.* 121: 559-564.
6. Reed, D.R., et al. 2008. QTL for body composition on chromosome 7 detected using a chromosome substitution mouse strain. *Obesity* 16: 483-487.
7. Tian, X., et al. 2009. Gene birth, death, and divergence: the different scenarios of reproduction-related gene evolution. *Biol. Reprod.* 80: 616-621.

## CHROMOSOMAL LOCATION

Genetic locus: Obox6 (mouse) mapping to 7 A2.

## PRODUCT

Obox6 siRNA (m) is a pool of 2 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 Obox6 shRNA Plasmid (m): sc-150165-SH and Obox6 shRNA (m) Lentiviral Particles: sc-150165-V as alternate gene silencing products.

For independent verification of Obox6 (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-150165A and sc-150165B.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## 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

Obox6 siRNA (m) is recommended for the inhibition of Obox6 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  $\mu$ 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 Obox6 gene expression knockdown using RT-PCR Primer: Obox6 (m)-PR: sc-150165-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.