

## NELF siRNA (m): sc-149907

### BACKGROUND

NELF (nasal embryonic luteinizing hormone-releasing hormone (LHRH) factor) is a 530 amino acid transcription factor involved in the migration of LHRH neurons, outgrowth of olfactory axons and suppression of transcription elongation. Known to couple NMDA receptor signaling to the nucleus, NELF displays both nuclear peripheral membrane localization, and when myristoylated, can localize outside of the nucleus. NELF is found in the peripheral and central nervous system during embryonic development, and is highly expressed in adult testis, kidney and brain. Existing as five alternatively spliced isoforms, the gene encoding NELF maps to human chromosome 9q34.3, which has been linked to the development of Idiopathic hypogonadotropic hypogonadism (IHH), a disorder resulting in impaired pubertal maturation and reproductive function.

### REFERENCES

1. Kramer, P.R. and Wray, S. 2000. Novel gene expressed in nasal region influences outgrowth of olfactory axons and migration of luteinizing hormone-releasing hormone (LHRH) neurons. *Genes Dev.* 14: 1824-1834.
2. Pitteloud, N., et al. 2002. The role of prior pubertal development, biochemical markers of testicular maturation, and genetics in elucidating the phenotypic heterogeneity of idiopathic hypogonadotropic hypogonadism. *J. Clin. Endocrinol. Metab.* 87: 152-160.
3. Miura, K., et al. 2004. Characterization of the human nasal embryonic LHRH factor gene, NELF, and a mutation screening among 65 patients with idiopathic hypogonadotropic hypogonadism (IHH). *J. Hum. Genet.* 49: 265-268.
4. Pitteloud, N., et al. 2007. Digenic mutations account for variable phenotypes in idiopathic hypogonadotropic hypogonadism. *J. Clin. Invest.* 117: 457-463.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 608137. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Pedersen-White, J.R., et al. 2008. The prevalence of intragenic deletions in patients with idiopathic hypogonadotropic hypogonadism and Kallmann syndrome. *Mol. Hum. Reprod.* 14: 367-370.
7. Yung, T.M., et al. 2009. Cellular dynamics of the negative transcription elongation factor NELF. *Exp. Cell Res.* 315: 1693-1705.

### CHROMOSOMAL LOCATION

Genetic locus: Nelf (mouse) mapping to 2 A3.

### PRODUCT

NELF 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NELF shRNA Plasmid (m): sc-149907-SH and NELF shRNA (m) Lentiviral Particles: sc-149907-V as alternate gene silencing products.

For independent verification of NELF (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-149907A, sc-149907B and sc-149907C.

### 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

NELF siRNA (m) is recommended for the inhibition of NELF 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 NELF gene expression knockdown using RT-PCR Primer: NELF (m)-PR: sc-149907-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.