

# SUN1 siRNA (h): sc-106672

## BACKGROUND

UNC84A (UNC84 homolog A), also known as SUN1, is a multi-pass nuclear membrane protein that is involved in nuclear anchoring and migration. Highly expressed in heart, brain and testis, UNC84A functions as an A-type Lamin-binding protein that forms a link between the inner and outer nuclear envelope membranes. This link acts as a structural bridge between the nuclear interior and the Actin cytoskeleton and is essential for proper localization of nuclear envelope proteins. Additionally, UNC84A may be involved in telomere attachment and in normal testis development. UNC84A contains one UNC84 (SUN) domain and exists as four isoforms due to alternative splicing events.

## REFERENCES

1. Dreger, M., et al. 2001. Nuclear envelope proteomics: novel integral membrane proteins of the inner nuclear membrane. *Proc. Natl. Acad. Sci. USA* 98: 11943-11948.
2. Bray, J.D., et al. 2002. Identification and characterization of cDNAs encoding four novel proteins that interact with translin associated factor-X. *Genomics* 79: 799-808.
3. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 607723. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Padmakumar, V.C., et al. 2005. The inner nuclear membrane protein SUN1 mediates the anchorage of Nesprin-2 to the nuclear envelope. *J. Cell Sci.* 118: 3419-3430.
5. Wang, Q., et al. 2006. Characterization of the structures involved in localization of the SUN proteins to the nuclear envelope and the centrosome. *DNA Cell Biol.* 25: 554-562.
6. Hasan, S., et al. 2006. Nuclear envelope localization of human UNC84A does not require nuclear lamins. *FEBS Lett.* 580: 1263-1268.

## CHROMOSOMAL LOCATION

Genetic locus: SUN1 (human) mapping to 7p22.3.

## PRODUCT

SUN1 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 SUN1 shRNA Plasmid (h): sc-106672-SH and SUN1 shRNA (h) Lentiviral Particles: sc-106672-V as alternate gene silencing products.

For independent verification of SUN1 (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-106672A, sc-106672B and sc-106672C.

## 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

SUN1 siRNA (h) is recommended for the inhibition of SUN1 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.

## GENE EXPRESSION MONITORING

SUN1 (2D10): sc-293292 is recommended as a control antibody for monitoring of SUN1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 SUN1 gene expression knockdown using RT-PCR Primer: SUN1 (h)-PR: sc-106672-PR (20  $\mu$ l, 597 bp). 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.