



# RNF146 siRNA (m): sc-153015

## BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. RNF146 (RING finger protein 146), also known as Dactylidin, is a 359 amino acid protein that contains one RING-type zinc finger and one WWE domain. Via its RING-type zinc finger, RNF146 may play a role in transcriptional regulation and protein degradation events. Defects in the gene encoding RNF146 are associated with Alzheimer's disease (AD) and may lead to a higher risk of breast cancer. Two isoforms of RNF146 exist due to alternative splicing events.

## REFERENCES

1. Borden, K.L., et al. 1996. The RING finger domain: a recent example of a sequence-structure family. *Curr. Opin. Struct. Biol.* 6: 395-401.
2. Lorick, K.L., et al. 1999. RING fingers mediate ubiquitin-conjugating enzyme (E2)-dependent ubiquitination. *Proc. Natl. Acad. Sci. USA* 96: 11364-11369.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 612137. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Colland, F., et al. 2004. Functional proteomics mapping of a human signaling pathway. *Genome Res.* 14: 1324-1332.
5. von Rotz, R.C., et al. 2005. The novel cytosolic RING finger protein dactylidin is up-regulated in brains of patients with Alzheimer's disease. *Eur. J. Neurosci.* 21: 1289-1298.
6. Penengo, L., et al. 2006. Crystal structure of the ubiquitin binding domains of rabex-5 reveals two modes of interaction with ubiquitin. *Cell* 124: 1183-1195.
7. Gold, B., et al. 2008. Genome-wide association study provides evidence for a breast cancer risk locus at 6q22.33. *Proc. Natl. Acad. Sci. USA* 105: 4340-4345.

## CHROMOSOMAL LOCATION

Genetic locus: Rnf146 (mouse) mapping to 10 A4.

## PRODUCT

RNF146 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 RNF146 shRNA Plasmid (m): sc-153015-SH and RNF146 shRNA (m) Lentiviral Particles: sc-153015-V as alternate gene silencing products.

For independent verification of RNF146 (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-153015A, sc-153015B and sc-153015C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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

RNF146 siRNA (m) is recommended for the inhibition of RNF146 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 RNF146 gene expression knockdown using RT-PCR Primer: RNF146 (m)-PR: sc-153015-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Liu, D., et al. 2018. Circulating apoptotic bodies maintain mesenchymal stem cell homeostasis and ameliorate osteopenia via transferring multiple cellular factors. *Cell Res.* 28: 918-933.

## PROTOCOLS

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