

# RNF133 siRNA (h): sc-89368

## BACKGROUND

RNF133 (RING finger protein 133), also known as E3 ubiquitin-protein ligase RNF133, is a 376 amino acid single pass membrane protein that contains one PA (protease associated) domain and one RING-type zinc finger. The RING finger domain is a motif present in a variety of functionally distinct proteins and is known to be involved in protein-protein and protein-DNA interactions. Post-translationally ubiquitinated, RNF133 has E3 ubiquitin-protein ligase activity. Lacking any introns, the gene that encodes RNF133 consists of approximately 1,445 bases and maps to human chromosome 7q31.32. Chromosome 7 houses over 1,000 genes, comprises nearly 5% of the human genome and has been linked to Osteogenesis imperfecta, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome. The Lys-172 polymorphism in T2R16 is associated with genetic susceptibility to alcoholism.

## REFERENCES

1. Tsipouras, P., Myers, J.C., Ramirez, F. and Prockop, D.J. 1983. Restriction fragment length polymorphism associated with the *pro $\alpha$ 2(I)* gene of human type I procollagen. Application to a family with an autosomal dominant form of osteogenesis imperfecta. *J. Clin. Invest.* 72: 1262-1267.
2. Saurin, A.J., Borden, K.L., Boddy, M.N. and Freemont, P.S. 1996. Does this have a familiar RING? *Trends Biochem. Sci.* 21: 208-214.
3. Liang, H., Fairman, J., Claxton, D.F., Nowell, P.C., Green, E.D. and Nagarajan, L. 1998. Molecular anatomy of chromosome 7q deletions in myeloid neoplasms: evidence for multiple critical loci. *Proc. Natl. Acad. Sci. USA* 95: 3781-3785.
4. Iwasaki, S., Usami, S., Abe, S., Isoda, H., Watanabe, T. and Hoshino, T. 2001. Long-term audiological feature in Pendred syndrome caused by PDS mutation. *Arch. Otolaryngol. Head Neck Surg.* 127: 705-708.
5. Osborne, L.R., Joseph-George, A.M. and Scherer, S.W. 2006. Williams-Beuren syndrome diagnosis using fluorescence *in situ* hybridization. *Methods Mol. Med.* 126: 113-128.
6. Reiner, O., Sapoznik, S. and Sapir, T. 2006. Lissencephaly 1 linking to multiple diseases: mental retardation, neurodegeneration, schizophrenia, male sterility, and more. *Neuromolecular Med.* 8: 547-565.
7. Gilbert-Dussardier, B. 2006. Williams-Beuren syndrome. *Rev Prat.* 56: 2102-2106.
8. Leone, G., Pagano, L., Ben-Yehuda, D. and Voso, M.T. 2007. Therapy-related leukemia and myelodysplasia: susceptibility and incidence. *Haematologica* 92: 1389-1398.
9. Markson, G., Kiel, C., Hyde, R., Brown, S., Charalabous, P., Bremm, A., Semple, J., Woodsmith, J., Duley, S., Salehi-Ashtiani, K., Vidal, M., Komander, D., Serrano, L., Lehner, P. and Sanderson, C.M. 2009. Analysis of the human E2 ubiquitin conjugating enzyme protein interaction network. *Genome Res.* 19: 1905-1911.

## PROTOCOLS

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

## CHROMOSOMAL LOCATION

Genetic locus: RNF133 (human) mapping to 7q31.32.

## PRODUCT

RNF133 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 RNF133 shRNA Plasmid (h): sc-89368-SH and RNF133 shRNA (h) Lentiviral Particles: sc-89368-V as alternate gene silencing products.

For independent verification of RNF133 (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-89368A, sc-89368B and sc-89368C.

## 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

RNF133 siRNA (h) is recommended for the inhibition of RNF133 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 RNF133 gene expression knockdown using RT-PCR Primer: RNF133 (h)-PR: sc-89368-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.