

RNF6 siRNA (m): sc-153053

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. RNF6 (RING finger protein (C3H2C3 type) 6), whose alternative names include RING-H2 protein, RING finger protein 6 or DKFZp686P0776, is a 685 amino acid protein that is expressed at low levels in testis, ovary, spleen, prostate and peripheral blood. RNF6 has been implied to be involved in tumor suppression as mutations and deletions of RNF6 have been identified in esophageal squamous cell carcinoma (ESCC). RNF6 regulates local growth cone Actin dynamics and the cellular concentration of LIMK-1. The gene encoding RNF6 maps to human chromosome 13q12.13 and gives rise to a PLP splice variant that is highly expressed in adult testis.

REFERENCES

1. Borden, K.L. and Freemont, P.S. 1996. The RING finger domain: a recent example of a sequence-structure family. *Curr. Opin. Struct. Biol.* 6: 395-401.
2. Macdonald, D.H., Lahiri, D., Sampath, A., Chase, A., Sohal, J. and Cross, N.C. 1999. Cloning and characterization of RNF6, a novel RING finger gene mapping to 13q12. *Genomics* 58: 94-97.
3. Lorick, K.L., Jensen, J.P., Fang, S., Ong, A.M., Hatakeyama, S. and Weissman, A.M. 1999. RING fingers mediate ubiquitin-conjugating enzyme (E2)-dependent ubiquitination. *Proc. Natl. Acad. Sci. USA* 96: 11364-11369.
4. Lo, H.S., Hu, N., Gere, S., Lu, N., Su, H., Goldstein, A.M., Taylor, P.R. and Lee, M.P. 2002. Identification of somatic mutations of the RNF6 gene in human esophageal squamous cell carcinoma. *Cancer Res.* 62: 4191-4193.
5. Lopez, P., Vidal, F., Martin, L., Lopez-Fernandez, L.A., Rual, J.F., Rosen, B.S., Cuzin, F. and Rassoulzadegan, M. 2002. Gene control in germinal differentiation: RNF6, a transcription regulatory protein in the mouse sertoli cell. *Mol. Cell. Biol.* 22: 3488-3496.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604242. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Tursun, B., Schlüter, A., Peters, M.A., Viehweger, B., Ostendorff, H.P., Soosairajah, J., Drung, A., Bossenz, M., Johnsen, S.A., Schweizer, M., Bernard, O. and Bach, I. 2005. The ubiquitin ligase RNF6 regulates local LIM kinase 1 levels in axonal growth cones. *Genes Dev.* 19: 2307-2319.
8. Zhu, L., Tong, G., Chen, J., Wang, Y., Wang, S., Zhao, M., Li, J. and Ma, J. 2008. Cloning and identification of a novel RNF6 transcriptional splice variant Spg2 in human development. *Sci. China C, Life Sci.* 51: 302-307.

CHROMOSOMAL LOCATION

Genetic locus: Rnf6 (mouse) mapping to 5 G3.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

RNF6 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RNF6 shRNA Plasmid (m): sc-153053-SH and RNF6 shRNA (m) Lentiviral Particles: sc-153053-V as alternate gene silencing products.

For independent verification of RNF6 (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-153053A, sc-153053B and sc-153053C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

RNF6 siRNA (m) is recommended for the inhibition of RNF6 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 μ M in 66 μ 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 RNF6 gene expression knockdown using RT-PCR Primer: RNF6 (m)-PR: sc-153053-PR (20 μ 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.