

RNF113A1 siRNA (m): sc-153002

BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and contains 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. RNF113A (RING finger protein 113A), also known as Cwc24, RNF113 or ZNF183, is a 343 amino acid protein that is ubiquitously expressed and contains a C3H1-type zinc finger and a RING-type zinc finger. RNF113A is encoded by a gene located on human chromosome Xq24. Chromosome X consists of about 153 million base pairs and nearly 1,000 genes. Color blindness, hemophilia and Duchenne muscular dystrophy are well known X chromosome-linked conditions which affect males more frequently, as males carry a single X chromosome.

REFERENCES

1. Freemont, P.S. 1993. The RING finger. A novel protein sequence motif related to the zinc finger. *Ann. N.Y. Acad. Sci.* 684: 174-192.
2. 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.
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. Westbrook, V.A., Diekman, A.B., Klotz, K.L., Khole, V.V., von Kap-Herr, C., Golden, W.L., Eddy, R.L., Shows, T.B., Stoler, M.H., Lee, C.Y., Flickinger, C.J. and Herr, J.C. 2000. Spermatid-specific expression of the novel X-linked gene product SPAN-X localized to the nucleus of human spermatozoa. *Biol. Reprod.* 63: 469-481.
5. Bernardino-Sgherri, J., Flagiello, D. and Dutrillaux, B. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. *Cytogenet. Genome Res.* 99: 85-91.
6. Deeb, S.S. 2005. The molecular basis of variation in human color vision. *Clin. Genet.* 67: 369-377.
7. Hayashi, T., Kubo, A., Takeuchi, T., Gekka, T., Goto-Omoto, S. and Kitahara, K. 2006. Novel form of a single X-linked visual pigment gene in a unique dichromatic color-vision defect. *Vis. Neurosci.* 23: 411-417.

CHROMOSOMAL LOCATION

Genetic locus: Rnf113a1 (mouse) mapping to X A3.3.

PRODUCT

RNF113A1 siRNA (m) is a pool of 2 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 RNF113A1 shRNA Plasmid (m): sc-153002-SH and RNF113A1 shRNA (m) Lentiviral Particles: sc-153002-V as alternate gene silencing products.

For independent verification of RNF113A1 (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-153002A and sc-153002B.

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

RNF113A1 siRNA (m) is recommended for the inhibition of RNF113A1 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 RNF113A1 gene expression knockdown using RT-PCR Primer: RNF113A1 (m)-PR: sc-153002-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.

PROTOCOLS

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