

ISG20L2 siRNA (h): sc-88462

BACKGROUND

ISG20L2 (interferon-stimulated 20 kDa exonuclease-like 2), also known as HSD38, is a 353 amino acid nuclear protein that contains one exonuclease domain. ISG20L2 acts as an exoribonuclease involved in ribosome biogenesis and exhibits a strong specificity for free hydroxyl groups present on the 3' end of rRNA. Exhibiting 3' to 5' exoribonuclease activity, ISG20L2 is involved in the biogenesis of large ribosomal subunits via the processing of the 12 S precursor rRNA. The gene encoding ISG20L2 maps to human chromosome 1q23.1 and mouse chromosome 3 F1. Human chromosome 1 spans 260 million base pairs, contains over 3,000 genes, comprises nearly 8% of the human genome and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome.

REFERENCES

1. Eudy, J.D., Yao, S., Weston, M.D., Ma-Edmonds, M., Talmadge, C.B., Cheng, J.J., Kimberling, W.J. and Sumegi, J. 1998. Isolation of a gene encoding a novel member of the nuclear receptor superfamily from the critical region of Usher syndrome type IIa at 1q41. *Genomics* 50: 382-384.
2. Lau, E.K., Tayebi, N., Ingraham, L.J., Winfield, S.L., Koprivica, V., Stone, D.L., Zimran, A., Ginns, E.I. and Sidransky, E. 1999. Two novel polymorphic sequences in the glucocerebrosidase gene region enhance mutational screening and founder effect studies of patients with Gaucher disease. *Hum. Genet.* 104: 293-300.
3. Plasilova, M., Russell, A.M., Wanner, A., Wolf, A., Dobbie, Z., Müller, H.J. and Heinemann, K. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
4. Oliveira, S.A., Li, Y.J., Nouredine, M.A., Zuchner, S., Qin, X., Pericak-Vance, M.A. and Vance, J.M. 2005. Identification of risk and age-at-onset genes on chromosome 1p in Parkinson disease. *Am. J. Hum. Genet.* 77: 252-264.
5. Coute, Y., Kindbeiter, K., Belin, S., Dieckmann, R., Duret, L., Bezin, L., Sanchez, J.C. and Diaz, J.J. 2008. ISG20L2, a novel vertebrate nucleolar exoribonuclease involved in ribosome biogenesis. *Mol. Cell. Proteomics* 7: 546-559.
6. Yokoi, T., Koide, R., Matsuoka, K., Nakagawa, A. and Azuma, N. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. *Graefes Arch. Clin. Exp. Ophthalmol.* 247: 715-718.
7. Zhou, Z., Wang, N., Woodson, S.E., Dong, Q., Wang, J., Liang, Y., Rijnbrand, R., Wei, L., Nichols, J.E., Guo, J.T., Holbrook, M.R., Lemon, S.M. and Li, K. 2011. Antiviral activities of ISG20 in positive-strand RNA virus infections. *Virology* 409: 175-188.

CHROMOSOMAL LOCATION

Genetic locus: ISG20L2 (human) mapping to 1q23.1.

PROTOCOLS

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

PRODUCT

ISG20L2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ISG20L2 shRNA Plasmid (h): sc-88462-SH and ISG20L2 shRNA (h) Lentiviral Particles: sc-88462-V as alternate gene silencing products.

For independent verification of ISG20L2 (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-88462A, sc-88462B and sc-88462C.

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

ISG20L2 siRNA (h) is recommended for the inhibition of ISG20L2 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 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 ISG20L2 gene expression knockdown using RT-PCR Primer: ISG20L2 (h)-PR: sc-88462-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.