



Ribosomal Protein L35A siRNA (m): sc-152915

BACKGROUND

Ribosomes, the organelles that catalyze protein synthesis, are composed of a small subunit (40S) and a large subunit (60S) that consist of over 80 distinct ribosomal proteins. Mammalian ribosomal proteins are encoded by multigene families that contain processed pseudogenes and one functional intron-containing gene within their coding regions. Ribosomal Protein L35A, whose alternative names include 60S Ribosomal Protein L35A, cell growth-inhibiting gene 33 protein, RPL35A, DBA5 or GIG33, is a 110 amino acid protein which belongs to the Ribosomal Protein L35Ae family. Ribosomal Protein L35A localizes to cytoplasm and is required for normal cell proliferation and survival. Biogenesis of the 60S subunit and maturation of 28S and 5.8S rRNAs is dependent on Ribosomal Protein L35A, and defects in the Ribosomal Protein L35A gene is the cause of Diamond-Blackfan anemia type 5 (DBA5). Originally believed to be mapped to chromosome 18, Ribosomal Protein L35A has been confirmed to be located at 3q29 of human origin.

REFERENCES

1. Feo, S., Davies, B. and Fried, M. 1992. The mapping of seven intron-containing ribosomal protein genes shows they are unlinked in the human genome. *Genomics* 13: 201-207.
2. Colombo, P., Read, M. and Fried, M. 1996. The human L35a Ribosomal Protein (RPL35A) gene is located at chromosome band 3q29-qter. *Genomics* 32: 148-150.
3. Lopez, C.D., Martinovsky, G. and Naumovski, L. 2002. Inhibition of cell death by Ribosomal Protein L35A. *Cancer Lett.* 180: 195-202.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 180468. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Mazumder, B., Sampath, P., Seshadri, V., Maitra, R.K., DiCorleto, P.E. and Fox, P.L. 2003. Regulated release of L13a from the 60S ribosomal subunit as a mechanism of transcript-specific translational control. *Cell* 115: 187-198.
6. Farrar, J.E., Nater, M., Caywood, E., McDevitt, M.A., Kowalski, J., Takemoto, C.M., Talbot, C.C., Meltzer, P., Esposito, D., Beggs, A.H., Schneider, H.E., Grabowska, A., Ball, S.E., Niewiadomska, E., et al. 2008. Abnormalities of the large ribosomal subunit protein, Rpl35a, in Diamond-Blackfan anemia. *Blood* 112: 1582-1592.
7. Robledo, S., Idol, R.A., Crimmins, D.L., Ladenson, J.H., Mason, P.J. and Bessler, M. 2008. The role of human ribosomal proteins in the maturation of rRNA and ribosome production. *RNA* 14: 1918-1929.

CHROMOSOMAL LOCATION

Genetic locus: Rpl35a (mouse) mapping to 16 B3.

PROTOCOLS

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

PRODUCT

Ribosomal Protein L35A siRNA (m) is a target-specific 19-25 nt siRNA 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 Ribosomal Protein L35A shRNA Plasmid (m): sc-152915-SH and Ribosomal Protein L35A shRNA (m) Lentiviral Particles: sc-152915-V as alternate gene silencing products.

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

Ribosomal Protein L35A siRNA (m) is recommended for the inhibition of Ribosomal Protein L35A 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 Ribosomal Protein L35A gene expression knockdown using RT-PCR Primer: Ribosomal Protein L35A (m)-PR: sc-152915-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.