

Ribosomal Protein S26 siRNA (m): sc-152945

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 S26 (RPS26), also known as S26 or DBA10, is a 115 amino acid protein that belongs to the Ribosomal Protein S26e family. The gene encoding Ribosomal Protein S26 maps to human chromosome 12q13.2, and when defective, may lead to the development of a congenital non-regenerative hypoplastic anemia known as Diamond-Blackfan anemia type 10 (DBA10). DBA10 typically becomes apparent during infancy, and is characterized by erythroblastopenia, macrocytic anemia and an increased risk of malignancy.

REFERENCES

1. Vincent, S., Marty, L. and Fort, P. 1993. S26 Ribosomal Protein RNA: an invariant control for gene regulation experiments in eucaryotic cells and tissues. *Nucleic Acids Res.* 21: 1498.
2. Filipenko, M.L., Vladimirov, S.N., Muravlev, A.I., Karpova, G.G. and Mertvetsov, N.P. 1994. Cloning cDNA of human S26 Ribosomal Protein and determination of its primary structure. *Bioorg. Khim.* 20: 644-649.
3. Wool, I.G., Chan, Y.L. and Glück, A. 1995. Structure and evolution of mammalian ribosomal proteins. *Biochem. Cell Biol.* 73: 933-947.
4. Filipenko, M.L., Vinichenko, N.A., Karpova, G.G., Mertvetsov, N.P. and Amaldi, F. 1998. Isolation, structural analysis and mapping of the functional gene of human Ribosomal Protein S26. *Gene* 211: 287-292.
5. Kenmochi, N., Kawaguchi, T., Rozen, S., Davis, E., Goodman, N., Hudson, T.J., Tanaka, T. and Page, D.C. 1998. A map of 75 human ribosomal protein genes. *Genome Res.* 8: 509-523.
6. Doherty, L., Sheen, M.R., Vlachos, A., Choesmel, V., O'Donohue, M.F., Clinton, C., Schneider, H.E., Sieff, C.A., Newburger, P.E., Ball, S.E., Niewiadomska, E., Matysiak, M., Glader, B., Arcenci, R.J., et al. 2010. Ribosomal protein genes RPS10 and RPS26 are commonly mutated in Diamond-Blackfan anemia. *Am. J. Hum. Genet.* 86: 222-228.
7. Cmejla, R., Ludikova, B., Sukova, M., Blatny, J. and Pospisilova, D. 2011. Can mutations in the Ribosomal Protein S26 (RPS26) gene lead to Klippel-Feil syndrome in Diamond-Blackfan anemia patients? An update from the Czech Diamond-Blackfan Anemia registry. *Blood Cells Mol. Dis.* 46: 300-301.
8. Trappl, K. and Polacek, N. 2011. The ribosome: a molecular machine powered by RNA. *Met. Ions Life Sci.* 9: 253-275.

CHROMOSOMAL LOCATION

Genetic locus: Rps26 (mouse) mapping to 10 D3.

PROTOCOLS

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

PRODUCT

Ribosomal Protein S26 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 S26 shRNA Plasmid (m): sc-152945-SH and Ribosomal Protein S26 shRNA (m) Lentiviral Particles: sc-152945-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 S26 siRNA (m) is recommended for the inhibition of Ribosomal Protein S26 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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.