

Cordon-bleu siRNA (h): sc-89500

BACKGROUND

Cordon-bleu, also known as COBL, is a 1,261 amino acid protein that localizes to the node of the axial midline, a structure that organizes morphogenesis of the vertebrate embryo. Widely conserved and existing as five alternatively spliced isoforms, Cordon-bleu interacts with Vangl2 to mediate closure of the midbrain neural tube and is highly expressed in pancreas, ovary, brain, liver, lung and kidney. Cordon-bleu contains three WH2 domains and is encoded by a gene that maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Chromosome 7 has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome. The deletion of a portion of the q arm of chromosome 7 is associated with Williams-Beuren syndrome, a condition characterized by mild mental retardation, an unusual comfort and friendliness with strangers and an elfin appearance.

REFERENCES

1. Tspouras, P., Myers, J.C., Ramirez, F. and Prockop, D.J. 1983. Restriction fragment length polymorphism associated with the pro α 2I gene of human type I procollagen. Application to a family with an autosomal dominant form of Osteogenesis imperfecta. *J. Clin. Invest.* 72: 1262-1267.
2. Gasca, S., Hill, D.P., Klingensmith, J. and Rossant, J. 1995. Characterization of a gene trap insertion into a novel gene, Cordon-bleu, expressed in axial structures of the gastrulating mouse embryo. *Dev. Genet.* 17: 141-154.
3. Ishikawa, K., Nagase, T., Suyama, M., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1998. Prediction of the coding sequences of unidentified human genes. X. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. *DNA Res.* 5: 169-176.
4. Iwasaki, S., Usami, S., Abe, S., Isoda, H., Watanabe, T. and Hoshino, T. 2001. Long-term audiological feature in Pendred syndrome caused by PDS mutation. *Arch. Otolaryngol. Head Neck Surg.* 127: 705-708.
5. Carroll, E.A., Gerrelli, D., Gasca, S., Berg, E., Beier, D.R., Copp, A.J. and Klingensmith, J. 2003. Cordon-bleu is a conserved gene involved in neural tube formation. *Dev. Biol.* 262: 16-31.
6. Reiner, O., Sapoznik, S. and Sapir, T. 2006. Lissencephaly 1 linking to multiple diseases: mental retardation, neurodegeneration, schizophrenia, male sterility, and more. *Neuromolecular Med.* 8: 547-565.
7. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610317. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: COBL (human) mapping to 7p12.1.

PROTOCOLS

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

PRODUCT

Cordon-bleu 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 Cordon-bleu shRNA Plasmid (h): sc-89500-SH and Cordon-bleu shRNA (h) Lentiviral Particles: sc-89500-V as alternate gene silencing products.

For independent verification of Cordon-bleu (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-89500A, sc-89500B and sc-89500C.

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

Cordon-bleu siRNA (h) is recommended for the inhibition of Cordon-bleu 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 Cordon-bleu gene expression knockdown using RT-PCR Primer: Cordon-bleu (h)-PR: sc-89500-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.