SANTA CRUZ BIOTECHNOLOGY, INC.

CRELD1 siRNA (h): sc-78142

BACKGROUND

CRELD1 (cysteine-rich with EGF-like domain protein 1) is a 420 amino acid multi-pass transmembrane protein containing two EGF-like domains, which are cysteine rich regions that are associated with protein-protein interactions and serve functional roles in cell adhesion proteins, transmembrane receptors and signaling proteins. Analysis of the amino acid sequence of CREDL1 suggests that it may function as a cell adhesion protein. CRELD1 is highly expressed in adult brain, heart, skeletal muscle, fetal liver, kidney and lung. Mutations in the gene encoding CRELD1 may cause susceptibility to atrioventricular septal defect 2, a disease that is characterized by the deficiency of the atrioventricular septum of the heart. Also, loss of heterozygosity in the genetic region encoding CRELD1 is found in lung cancer and nasopharyngeal carcinoma. There are two isoforms of CRELD1 that exist as a result of alternative splicing events.

REFERENCES

1. Rupp, P.A., et al. 2002. Identification, genomic organization and mRNA expression of CRELD1, the founding member of a unique family of matricellular proteins. Gene. 293: 47-57.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606217. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Robinson, S.W., et al. 2003. Missense mutations in CRELD1 are associated with cardiac atrioventricular septal defects. Am. J. Hum. Genet. 72: 1047-1052.
4. Maslen, C.L. 2004. Molecular genetics of atrioventricular septal defects. Curr. Opin. Cardiol. 19: 205-210.
5. Sarkozy, A., et al. 2005. CRELD1 and GATA4 gene analysis in patients with nonsyndromic atrioventricular canal defects. Am. J. Med. Genet. A 139A: 236-238.
6. Zatyka, M., et al. 2005. Analysis of CRELD1 as a candidate 3p25 atrioventicular septal defect locus (AVSD2). Clin. Genet. 67: 526-528.
7. Maslen, C.L., et al. 2006. CRELD1 mutations contribute to the occurrence of cardiac atrioventricular septal defects in Down syndrome. Am. J. Med. Genet. A. 140: 2501-2505.

CHROMOSOMAL LOCATION

Genetic locus: CRELD1 (human) mapping to 3p25.3.

PRODUCT

CRELD1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CRELD1 shRNA Plasmid (h): sc-78142-SH and CRELD1 shRNA (h) Lentiviral Particles: sc-78142-V as alternate gene silencing products.

For independent verification of CRELD1 (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-78142A, sc-78142B and sc-78142C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CRELD1 siRNA (h) is recommended for the inhibition of CRELD1 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 µM in 66 µl. 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 CRELD1 gene expression knockdown using RT-PCR Primer: CRELD1 (h)-PR: sc-78142-PR (20 µl). 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.