SANTA CRUZ BIOTECHNOLOGY, INC.

CFDP1 siRNA (h): sc-93084

BACKGROUND

CFDP1 (Craniofacial development protein 1), also known as Bucentaur and CP27, is a 299 amino acid protein that is involved in embryogenesis and normal cell function. When treated with CFDP1 peptide, mouse molar teeth increase in size, whereas treating cells with antibodies against CFDP1 shows an increase in the number of apoptotic cells and gradual tooth disintegration. CFDP1 is highly expressed in developing mouse teeth and is expressed at lower levels in liver, lung and heart. The gene encoding CFDP1 maps to human chromsome 16, in a region that has been associated with inherited craniofacial diseases, such as fanconi anemia type A. There are two isoforms of CFDP1 that are produced as a result of alternative splicing events.

REFERENCES

1. Nobukuni, T., et al. 1997. An Alu-linked repetitive sequence corresponding to 280 amino acids is expressed in a novel bovine protein, but not in its human homologue. J. Biol. Chem. 272: 2801-2807.
2. Takahashi, I., et al. 1998. Existence of a bovine LINE repetitive insert that appears in the cDNA of bovine protein BCNT in ruminant, but not in human, genomes. Gene 211: 387-394.
3. Diekwisch, T.G., et al. 1999. Cloning, gene expression, and characterization of CP27, a novel gene in mouse embryogenesis. Gene 235: 19-30.
4. Iwashita, S., et al. 2001. Gene organization of bovine BCNT that contains a portion corresponding to an endonuclease domain derived from an RTE-1 (Bov-B LINE), non-LTR retrotransposable element: duplication of an intramolecular repeat unit downstream of the truncated RTE-1. Gene 268: 59-66.
5. Diekwisch, T.G., et al. 2002. CP27 function is necessary for cell survival and differentiation during tooth morphogenesis in organ culture. Gene 287: 141-147.
6. Iwashita, S., et al. 2006. A tandem gene duplication followed by recruitment of a retrotransposon created the paralogous bucentaur gene (bcntp97) in the ancestral ruminant. Mol. Biol. Evol. 23: 798-806.
7. Iwashita, S., et al. 2009. Multiple duplication of the bucentaur gene family, which recruits the APE-like domain of retrotransposon: Identification of a novel homolog and distinct cellular expression. Gene 435: 88-95.

CHROMOSOMAL LOCATION

Genetic locus: CFDP1 (human) mapping to 16q23.1.

PRODUCT

CFDP1 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 CFDP1 shRNA Plasmid (h): sc-93084-SH and CFDP1 shRNA (h) Lentiviral Particles: sc-93084-V as alternate gene silencing products.

For independent verification of CFDP1 (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-93084A, sc-93084B and sc-93084C.

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

CFDP1 siRNA (h) is recommended for the inhibition of CFDP1 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 CFDP1 gene expression knockdown using RT-PCR Primer: CFDP1 (h)-PR: sc-93084-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.