SANTA CRUZ BIOTECHNOLOGY, INC.

DCC1 siRNA (h): sc-77856

BACKGROUND

CTF18 is a protein that is structurally related to the Rad24 and RFC (replication factor C) proteins. CTF18 is believed to form a novel RFC complex and functions redundantly with Rad24 in the DNA replication block checkpoint. The CTF18-RFC complex is a seven-subunit structure that consists of the four small subunits of RFC, together with CTF18, DCC1, and CTF8. This RFC complex is responsible for loading the replication clamp PCNA (Proliferating Cell Nuclear Antigen) onto DNA and functions in DNA replication and repair. Regulated unloading of PCNA during the progression and termination of DNA replication does not seem to be a function of the CTF18-RFC complex. DCC1 (defective in sister chromatid cohesion protein 1) is a 393 amino acid protein that along with CTF8 is required for establishing sister chromatid cohesion within the CTF18-RFC complex.

REFERENCES

1. Naiki, T., et al. 2001. Chl12 (Ctf18) forms a novel replication factor C-related complex and functions redundantly with Rad24 in the DNA replication checkpoint pathway. Mol. Cell. Biol. 21: 5838-5845.
2. Mayer, M.L., et al. 2001. Identification of RFC(Ctf18p, Ctf8p, Dcc1p): an alternative RFC complex required for sister chromatid cohesion in *S. cerevisiae.* Mol. Cell 7: 959-970.
3. Ohta, S., et al. 2002. A proteomics approach to identify proliferating cell nuclear antigen (PCNA)-binding proteins in human cell lysates. Identification of the human CHL12/RFCs2-5 complex as a novel PCNA-binding protein. J. Biol. Chem. 277: 40362-40367.
4. Bermudez, V.P., et al. 2003. The alternative Ctf18-Dcc1-Ctf8-replication factor C complex required for sister chromatid cohesion loads proliferating cell nuclear antigen onto DNA. Proc. Natl. Acad. Sci. USA 100: 10237-10242.
5. Merkle, C.J., et al. 2003. Cloning and characterization of hCTF18, hCTF8, and hDCC1. Human homologs of a *Saccharomyces cerevisiae* complex involved in sister chromatid cohesion establishment. J. Biol. Chem. 278: 30051-30056.

CHROMOSOMAL LOCATION

Genetic locus: DSCC1 (human) mapping to 8q24.12.

PRODUCT

DCC1 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 DCC1 shRNA Plasmid (h): sc-77856-SH and DCC1 shRNA (h) Lentiviral Particles: sc-77856-V as alternate gene silencing products.

For independent verification of DCC1 (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-77856A, sc-77856B and sc-77856C.

PROTOCOLS

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

DCC1 siRNA (h) is recommended for the inhibition of DCC1 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 DCC1 gene expression knockdown using RT-PCR Primer: DCC1 (h)-PR: sc-77856-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.