SANTA CRUZ BIOTECHNOLOGY, INC.

GCF siRNA (h): sc-94282

BACKGROUND

GCF (GC-rich sequence DNA-binding factor), also known as, C2orf3 (chromosome 2 open reading frame 3), transcription factor 9 (TCF-9) or DNABF, is a 781 amino acid nuclear protein that belongs to the GCF family. Widely expressed, GCF binds the GC-rich sequences of β-Actin, EGFR and calcium-dependent protease (CANP) promoters. GCF contains multiple phosphoserine and phosphothreonine residues, and two GCF isoforms are produced due to alternative splicing events. GCF is considered a candidate for susceptibility to dyslexia (DYX3) as both genes reside in close proximity on human chromosome 2. Chromosome 2 is the second largest human chromosome and consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome.

REFERENCES

1. Kageyama, R. and Pastan, I. 1989. Molecular cloning and characterization of a human DNA binding factor that represses transcription. Cell 59: 815-825.
2. Johnson, A.C., et al. 1992. Expression and chromosomal localization of the gene for the human transcriptional repressor GCF. J. Biol. Chem. 267: 1689-1694.
3. Beguinot, L., et al. 1995. Biochemical characterization of human GCF transcription factor in tumor cells. Cell Growth Differ. 6: 699-706.
4. Takimoto, M., et al. 1999. Molecular analysis of the GCF gene identifies revisions to the cDNA and amino acid sequences. Biochim. Biophys. Acta 1447: 125-131.
5. Mao, P. 1999. Revisions of the cDNA and primary protein structure of human transcription factor GCF. Hokkaido Igaku Zasshi 74: 315-330.
6. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 189901. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Anthoni, H., et al. 2007. A locus on 2p12 containing the co-regulated MRPL19 and C2ORF3 genes is associated to dyslexia. Hum. Mol. Genet. 16: 667-677.

CHROMOSOMAL LOCATION

Genetic locus: GCFC2 (human) mapping to 2p12.

PRODUCT

GCF 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 GCF shRNA Plasmid (h): sc-94282-SH and GCF shRNA (h) Lentiviral Particles: sc-94282-V as alternate gene silencing products.

For independent verification of GCF (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-94282A, sc-94282B and sc-94282C.

RESEARCH USE

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

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

GCF siRNA (h) is recommended for the inhibition of GCF 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 GCF gene expression knockdown using RT-PCR Primer: GCF (h)-PR: sc-94282-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.