SANTA CRUZ BIOTECHNOLOGY, INC.

CHCHD8 siRNA (m): sc-142320

BACKGROUND

CHCHD8 (Coiled-coil-helix-coiled-coil-helix domain-containing protein 8), also known as E2IG2 (E2-induced gene 2 protein), is a 87 amino acid protein that contains one CHCH domain and is upregulated by estrogen. There are two isoforms of CHCHD8 that are produced as a result of alternative splicing events. The gene encoding CHCHD8 maps to human chromosome 11, which makes up around 4% of human genomic DNA and is considered a gene and disease association dense chromosome. The chromosome 11 encoded Atm gene is important for regulation of cell cycle arrest and apoptosis following double strand DNA breaks. Atm mutation leads to the disorder known as ataxia-telangiectasia. The blood disorders Sickle cell anemia and β thalassemia are caused by HBB gene mutations. Wilms' tumors, WAGR syndrome and Denys-Drash syndrome are associated with mutations of the WT1 gene. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are also associated with defects in chromosome 11.

REFERENCES

1. Charpentier, A.H., et al. 2000. Effects of estrogen on global gene expression: identification of novel targets of estrogen action. Cancer Res. 60: 5977-5983.
2. Grossfeld, P.D., et al. 2004. The 11q terminal deletion disorder: a prospective study of 110 cases. Am. J. Med. Genet. A 129A: 51-61.
3. Zehelein, J., et al. 2006. Skipping of Exon 1 in the KCNQ1 gene causes Jervell and Lange-Nielsen syndrome. J. Biol. Chem. 281: 35397-35403.
4. Loussouarn, G., et al. 2006. KCNQ1 K^+ channel-mediated cardiac channelopathies. Methods Mol. Biol. 337: 167-183.
5. Taylor, T.D., et al. 2006. Human chromosome 11 DNA sequence and analysis including novel gene identification. Nature 440: 497-500.
6. Ataga, K.I., et al. 2007. β-thalassaemia and sickle cell anaemia as paradigms of hypercoagulability. Br. J. Haematol. 139: 3-13.

CHROMOSOMAL LOCATION

Genetic locus: Chchd8 (mouse) mapping to 7 E3.

PRODUCT

CHCHD8 siRNA (m) 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 CHCHD8 shRNA Plasmid (m): sc-142320-SH and CHCHD8 shRNA (m) Lentiviral Particles: sc-142320-V as alternate gene silencing products.

For independent verification of CHCHD8 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142320A, sc-142320B and sc-142320C.

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

CHCHD8 siRNA (m) is recommended for the inhibition of CHCHD8 expression in mouse 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 CHCHD8 gene expression knockdown using RT-PCR Primer: CHCHD8 (m)-PR: sc-142320-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.