SANTA CRUZ BIOTECHNOLOGY, INC.

HELIC1 siRNA (m): sc-75242

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The Power to Question

BACKGROUND

HELIC1 (helicase, ATP binding 1), also known as ASCC3 (activating signal cointegrator 1 complex subunit 3) or RNAH, is a 2,202 amino acid protein that localizes to the cytoplasm and contains two helicase ATP-binding domains, two helicase C-terminal domains and three SEC63 domains. Expressed ubiquitously, HELIC1 exists as a component of the multi-protein TRIP4 complex and is thought to enhance the transactivation of NFκB, SRF and c-Jun. The gene encoding HELIC1 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

1. Coulie, P.G., et al. 1999. Antitumor immunity at work in a melanoma patient. Adv. Cancer Res. 76: 213-242.
2. Makino, N., et al. 2001. Isolation and characterization of the human gene homologous to the *Drosophila* headcase (hdc) gene in chromosome bands 6q23-q24, a region of common deletion in human pancreatic cancer. DNA Seq. 11: 547-553.
3. Jung, D.J., et al. 2002. Novel transcription coactivator complex containing activating signal cointegrator 1. Mol. Cell. Biol. 22: 5203-5211.
4. McQueen, M.B., et al. 2005. Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence of susceptibility loci on chromosomes 6q and 8q. Am. J. Hum. Genet. 77: 582-595.
5. Chien, C.C., et al. 2006. A homologue of the *Drosophila* headcase protein is a novel tumor marker for early-stage colorectal cancer. Oncol. Rep. 15: 919-926.
6. Di Meo, G.P., et al. 2007. An advanced sheep *(Ovis aries,* 2n=54) cytogenetic map and assignment of 88 new autosomal loci by fluorescence *in situ* hybridization and R-banding. Anim. Genet. 38: 233-240.

CHROMOSOMAL LOCATION

Genetic locus: Ascc3 (mouse) mapping to 10 B3.

PRODUCT

HELIC1 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 HELIC1 shRNA Plasmid (m): sc-75242-SH and HELIC1 shRNA (m) Lentiviral Particles: sc-75242-V as alternate gene silencing products.

For independent verification of HELIC1 (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-75242A, sc-75242B and sc-75242C.

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

HELIC1 siRNA (m) is recommended for the inhibition of HELIC1 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 HELIC1 gene expression knockdown using RT-PCR Primer: HELIC1 (m)-PR: sc-75242-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.