SANTA CRUZ BIOTECHNOLOGY, INC.

CASC5 siRNA (m): sc-142018

BACKGROUND

DSN1, also known as MIS13, is a 356 amino acid protein that is associated with the kinetochore and functions as a component of the MIS12 protein complex, a multi-protein structure that works to ensure proper kinetochore formation and spindle checkpoint activity. CASC5 (cancer susceptibility candidate 5), also known as D40 or KNL1, is a 2,342 amino acid protein that interacts with MIS12 and DSN1, functioning as a component of the MIS12 complex and playing an important role in proper chromosome segregation during mitosis. CASC5 exists as multiple alternatively spliced isoforms that are highly expressed in testis and are present at lower levels in thymus, colon, bone marrow, placenta and small intestine. Chromosomal aberrations involving the gene encoding CASC5 are associated with acute myeloblastic leukemia (AML), suggesting a role for mutated CASC5 in tumorigenesis.

REFERENCES

1. Ray, M.E., et al. 1996. Isolation and characterization of genes associated with chromosome-6 mediated tumor suppression in human malignant melanoma. Oncogene 12: 2527-2533.
2. Wei, G., et al. 1999. Chromosomal assignment of a novel human gene D40. Nucleic Acids Symp. Ser. 42: 71-72.
3. Hayette, S., et al. 2000. AF15q14, a novel partner gene fused to the MLL gene in an acute myeloid leukaemia with a t(11;15)(q23;q14). Oncogene 19: 4446-4450.
4. Takimoto, M., et al. 2002. Frequent expression of new cancer/testis gene D40/AF15q14 in lung cancers of smokers. Br. J. Cancer 86: 1757-1762.
5. Chinwalla, V., et al. 2003. A t(11;15) fuses MLL to two different genes, AF15q14 and a novel gene MPFYVE on chromosome 15. Oncogene 22: 1400-1410.
6. Cheeseman, I.M., et al. 2004. A conserved protein network controls assembly of the outer kinetochore and its ability to sustain tension. Genes Dev. 18: 2255-2268.

CHROMOSOMAL LOCATION

Genetic locus: Casc5 (mouse) mapping to 2 E5.

PRODUCT

CASC5 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 CASC5 shRNA Plasmid (m): sc-142018-SH and CASC5 shRNA (m) Lentiviral Particles: sc-142018-V as alternate gene silencing products.

For independent verification of CASC5 (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-142018A, sc-142018B and sc-142018C.

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

CASC5 siRNA (m) is recommended for the inhibition of CASC5 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 CASC5 gene expression knockdown using RT-PCR Primer: CASC5 (m)-PR: sc-142018-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.