SANTA CRUZ BIOTECHNOLOGY, INC.

CASC3 siRNA (m): sc-142016

BACKGROUND

CASC3 (cancer susceptibility candidate 3), also known as BTZ or MLN51, is a 703 amino acid protein that localizes to both the nucleus and the cytoplasm and contains a coiled-coil domain. Expressed in a variety of tissues, CASC3 functions as a component of the exon junction complex (EJC), a multi-protein structure that exists on spliced mRNAs and plays a role in nonsense-mediated mRNA decay at exon-exon junctions. As a component of the EJC, CASC3 is thought to participate in mRNA modification and may also be involved in mRNA transport and ribonucleoprotein particle function. CASC3 is overexpressed in breast and gastric cancers, suggesting a role for CASC3 in tumor development and metastasis. The gene encoding CASC3 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes.

REFERENCES

1. Tomasetto, C., et al. 1995. Identification of four novel human genes amplified and overexpressed in breast carcinoma and localized to the q11-q21.3 region of chromosome 17. Genomics 28: 367-376.
2. Varis, A., et al. 2002. Targets of gene amplification and overexpression at 17q in gastric cancer. Cancer Res. 62: 2625-2629.
3. Degot, S., et al. 2002. Metastatic Lymph Node 51, a novel nucleo-cytoplasmic protein overexpressed in breast cancer. Oncogene 21: 4422-4434.
4. Macchi, P., et al. 2003. Barentsz, a new component of the Staufen-containing ribonucleoprotein particles in mammalian cells, interacts with Staufen in an RNA-dependent manner. J. Neurosci. 23: 5778-5788.
5. Degot, S., et al. 2004. Association of the breast cancer protein MLN51 with the exon junction complex via its speckle localizer and RNA binding module. J. Biol. Chem. 279: 33702-33715.

CHROMOSOMAL LOCATION

Genetic locus: Casc3 (mouse) mapping to 11 D.

PRODUCT

CASC3 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 CASC3 shRNA Plasmid (m): sc-142016-SH and CASC3 shRNA (m) Lentiviral Particles: sc-142016-V as alternate gene silencing products.

For independent verification of CASC3 (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-142016A, sc-142016B and sc-142016C.

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.

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

CASC3 siRNA (m) is recommended for the inhibition of CASC3 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 CASC3 gene expression knockdown using RT-PCR Primer: CASC3 (m)-PR: sc-142016-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.