SANTA CRUZ BIOTECHNOLOGY, INC.

STAG3 siRNA (h): sc-38451

BACKGROUND

Stromalins are a group of highly conserved proteins that are characterized by the stromalin conservative domain. Stromal antigen 3 (STAG3) is a nuclear protein that is expressed specifically in germinal cells. STAG3 associates with the synaptonemal complex (SC) via immunolocalization. The SC is a meiotic protein structure that aids in the pairing of homologous chromosomes. In mammals, STAG3 associates with the SC and assists in sister chromatid cohesion, which keeps the homologous chromosomes appropriately aligned during the pachytene stage of prophase I. STAG3 appears to be located at the interchromatid domain during metaphase I, but is undetectable in anaphase I or any of the later stages of meiosis. The human STAG3 gene maps to 7q22.1. There have been six additional STAG3-related genes mapped in humans. Two of these genes flank the chromosomal breakpoints associated with the Williams-Beuren syndrome (WBS), a microdeletion syndrome with varied clinical presentations.

REFERENCES

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3. von Beust, G., Laccone, F.A., del Pilar Andrino, M. and Wessel, A. 2000. Clinical aspects and genetics of Williams-Beuren syndrome. Clinical and molecular genetic study of 44 patients with suspected Williams-Beuren syndrome. Klin. Padiatr. 212: 299-307.
4. Prieto, I., Suja, J.A., Pezzi, N., Kremer, L., Martinez-A, C., Rufas, J.S. and Barbero, J.L. 2001. Mammalian STAG3 is a cohesin specific to sister chromatid arms in meiosis I. Nat. Cell Biol. 3: 761-766.
5. Bayes, M., Prieto, I., Noguchi, J., Barbero, J.L. and Perez Jurado, L.A. 2001. Evaluation of the Stag3 gene and the synaptonemal complex in a rat model (as/as) for male infertility. Mol. Reprod. Dev. 60: 414-417.

CHROMOSOMAL LOCATION

Genetic locus: STAG3 (human) mapping to 7q22.1.

PRODUCT

STAG3 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 STAG3 shRNA Plasmid (h): sc-38451-SH and STAG3 shRNA (h) Lentiviral Particles: sc-38451-V as alternate gene silencing products.

For independent verification of STAG3 (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-38451A, sc-38451B and sc-38451C.

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

STAG3 siRNA (h) is recommended for the inhibition of STAG3 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 STAG3 gene expression knockdown using RT-PCR Primer: STAG3 (h)-PR: sc-38451-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.