

THADA siRNA (m): sc-154243

BACKGROUND

THADA (thyroid adenoma associated), also known as GITA, is a 1,953 amino acid protein that is expressed in testis, thyroid, pancreas, stomach and small intestine. Chromosomal aberrations in the gene encoding THADA are associated with benign thyroid adenomas, suggesting a potential role for THADA in tumorigenesis. The THADA gene maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the chromosome 2-localized ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes, which also map to chromosome 2.

REFERENCES

1. Ijdo, J.W., Baldini, A., Ward, D.C., Reeders, S.T. and Wells, R.A. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. *Proc. Natl. Acad. Sci. USA* 88: 9051-9055.
2. Nagase, T., Kikuno, R., Hattori, A., Kondo, Y., Okumura, K. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XIX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 347-355.
3. Bol, S., Belge, G., Rippe, V. and Bullerdiek, J. 2001. Molecular cytogenetic investigations define a subgroup of thyroid adenomas with 2p21 breakpoints clustered to a region of less than 450 kb. *Cytogenet. Cell Genet.* 95: 189-191.
4. Rippe, V., Drieschner, N., Meiboom, M., Murua Escobar, H., Bonk, U., Belge, G. and Bullerdiek, J. 2003. Identification of a gene rearranged by 2p21 aberrations in thyroid adenomas. *Oncogene* 22: 6111-6114.
5. Drieschner, N., Belge, G., Rippe, V., Meiboom, M., Loeschke, S. and Bullerdiek, J. 2006. Evidence for a 3p25 breakpoint hot spot region in thyroid tumors of follicular origin. *Thyroid* 16: 1091-1096.
6. Drieschner, N., Kerschling, S., Soller, J.T., Rippe, V., Belge, G., Bullerdiek, J. and Nimzyk, R. 2007. A domain of the thyroid adenoma associated gene (THADA) conserved in vertebrates becomes destroyed by chromosomal rearrangements observed in thyroid adenomas. *Gene* 403: 110-117.
7. Grarup, N., Andersen, G., Krarup, N.T., Albrechtsen, A., Schmitz, O., Jørgensen, T., Borch-Johnsen, K., Hansen, T. and Pedersen, O. 2008. Association testing of novel type 2 diabetes risk alleles in the JAZF1, CDC123/CAMK1D, TSPAN8, THADA, ADAMTS9, and NOTCH2 loci with Insulin release, Insulin sensitivity, and obesity in a population-based sample of 4,516 glucose-tolerant middle-aged Danes. *Diabetes* 57: 2534-2540.
8. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611800. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: Thada (mouse) mapping to 17 E4.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

THADA 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see THADA shRNA Plasmid (m): sc-154243-SH and THADA shRNA (m) Lentiviral Particles: sc-154243-V as alternate gene silencing products.

For independent verification of THADA (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-154243A, sc-154243B and sc-154243C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

THADA siRNA (m) is recommended for the inhibition of THADA 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 μ M in 66 μ l. 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 THADA gene expression knockdown using RT-PCR Primer: THADA (m)-PR: sc-154243-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.