SANTA CRUZ BIOTECHNOLOGY, INC.

TSA-1 siRNA (h): sc-106833

BACKGROUND

The human thymic shared antigen-1 (Ly-6E, RIGE, RIG-E, SCA-2, TSA-1) gene maps to chromosome 8q24.3 and encodes a 131 amino acid protein that belongs to the Ly-6 family of glycosylphosphatidylinositol (GPI)-linked proteins. Ly-6 family members share amino acid homology throughout a distinctive cysteine rich protein domain that incorporates O-linked carbohydrates. Liver, kidney, ovary, immature thymocytes, stromal cells and peripheral blood leukocytes contain high levels of TSA-1, while much lower levels are present in bone marrow stem cells. Lymphocytes expressing Ly-6 family proteins are responsive to IFNs, particularly IFN-α. The Ly-6 family influences normal seeding and colonization of the thymus by bone marrow stem cells, and the maturation of these cells into mature T lymphocytes.

REFERENCES

1. Classon, B.J. and Coverdale, L. 1994. Mouse stem cell antigen Sca-2 is a member of the Ly-6 family of cell surface proteins. Proc. Natl. Acad. Sci. USA 91: 5296-5300.
2. Brakenhoff, R.H., van Dijk, M., Rood-Knippels, E.M. and Snow, G.B. 1997. A gain of novel tissue specificity in the human Ly-6 gene E48. J. Immunol. 159: 4879-4886.
3. Classon, B.J. and Boyd, R.L. 1998. Thymic-shared antigen-1 (TSA-1). A lymphostromal cell membrane Ly-6 superfamily molecule with a putative role in cellular adhesion. Dev. Immunol. 6: 149-156.
4. Shan, X., Bourdeau, A., Rhoton, A., Wells, D.E., Cohen, E.H., Landgraf, B.E. and Palfree, R.G. 1998. Characterization and mapping to human chromosome 8q24.3 of Ly-6-related gene 9804 encoding an apparent homologue of mouse TSA-1. J. Immunol. 160: 197-208.
5. Ding, L. and Shevach, E.M. 2001. Inhibition of the function of the FcγRIIB by a monoclonal antibody to thymic shared antigen-1, a Ly-6 family antigen. Immunology 104: 28-36.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601384. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. LocusLink Report (LocusID: 4061). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: LY6E (human) mapping to 8q24.3.

PRODUCT

TSA-1 siRNA (h) is a target-specific 19-25 nt siRNA 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 TSA-1 shRNA Plasmid (h): sc-106833-SH and TSA-1 shRNA (h) Lentiviral Particles: sc-106833-V as alternate gene silencing products.

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

TSA-1 siRNA (h) is recommended for the inhibition of TSA-1 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 TSA-1 gene expression knockdown using RT-PCR Primer: TSA-1 (h)-PR: sc-106833-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.