SANTA CRUZ BIOTECHNOLOGY, INC.

TEL2 siRNA (h): sc-95523

BACKGROUND

Ets-1 is the prototype member of a family of genes identified on the basis of homology to the v-Ets oncogene isolated from the E26 erythroblastosis virus. Members of the Ets gene family exhibit varied patterns of tissue expression and share a highly conserved carboxy terminal domain which contains a sequence related to the SV40 large T antigen nuclear localization sequence. This conserved carboxy domain is essential for Ets-1 binding to DNA and is likely to be responsible for the DNA binding activity of all members of the Ets gene family. TEL2, also known as ETV7 (ets variant gene 7), TREF or TELB, is a 341 amino acid nuclear protein that contains one PNT domain and one Ets DNA-binding domain. Expressed in hematopoietic tissue, TEL2 belongs to the Ets family and functions as a transcriptional repressor that binds to the DNA sequence 5'-CCGGAAGT-3'. Defects in the gene encoding TEL2 are associated with B-cell malignancies, suggesting an important role for TEL2 in carcinogenesis. Seven isoforms (designated A-G) of TEL2 exist due to alternative splicing events.

REFERENCES

1. Potter, M.D., et al. 2000. Identification and characterization of a new human ETS-family transcription factor, TEL2, that is expressed in hematopoietic tissues and can associate with TEL1/ETV6. Blood 95: 3341-3348.
2. Poirel, H., et al. 2000. Characterization of a novel ETS gene, TELB, encoding a protein structurally and functionally related to TEL. Oncogene 19: 4802-4806.
3. Gu, X., et al. 2001. Tel-2 is a novel transcriptional repressor related to the Ets factor Tel/ETV-6. J. Biol. Chem. 276: 9421-9436.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605255. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Sakurai, T., et al. 2003. Effects of overexpression of the Ets family transcription factor TEL on cell growth and differentiation of K562 cells. Int. J. Oncol. 22: 1327-1333.
6. Boccuni, P., et al. 2003. The human L(3)MBT polycomb group protein is a transcriptional repressor and interacts physically and functionally with TEL (ETV6). J. Biol. Chem. 278: 15412-15420.

CHROMOSOMAL LOCATION

Genetic locus: ETV7 (human) mapping to 6p21.31.

PRODUCT

TEL2 siRNA (h) is a pool of 2 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 TEL2 shRNA Plasmid (h): sc-95523-SH and TEL2 shRNA (h) Lentiviral Particles: sc-95523-V as alternate gene silencing products.

For independent verification of TEL2 (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-95523A and sc-95523B.

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

TEL2 siRNA (h) is recommended for the inhibition of TEL2 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.

GENE EXPRESSION MONITORING

TEL2 (E-1): sc-374478 is recommended as a control antibody for monitoring of TEL2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TEL2 gene expression knockdown using RT-PCR Primer: TEL2 (h)-PR: sc-95523-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.