SANTA CRUZ BIOTECHNOLOGY, INC.

TBL1X siRNA (h): sc-38888

BACKGROUND

TBL1, for transducin β-like 1, is a ubiquitously expressed protein that contains six distinct β-transducin repeats, known also as WD40 repeats, within the C-terminal domain. Transducin β-like 1 Y-linked protein (TBL1Y), also designated F-box-like/WD-repeat protein, and transducin β-like 1 X protein (TBL1X), also known as SMAP55, are nuclear F-box-like proteins. They are important in the ubiquitin/19S proteasome complex recruitment to nuclear receptor-regulated transcription units. TBL1X is a part of the N-CoR repressor complex together with N-CoR1, N-CoR2, HDAC3, TBL1R, CORO2A and GPS2. It is also a component of the E3 ubiquitin ligase complex. TBL1X, which can interact with Histones H2B, H3a and H4, is similar to TBL1Y but is localized on chromosome Xp22.31. Defects in TBL1X may cause an X-linked human disorder called ocular albinism with late-onset sensorineural deafness (OASD). TBL1Y is an X-degenerate gene that is homologous to TBL1X. TBL1Y, a single-copy gene, localizes to human chromosome Yp11.2 in the male-specific region of chromosome Y (MSY). This region of the Y chromosome does not engage in X-Y crossover events. TBL1Y is primarily expressed in fetal brain and prostate. TBL1X and TBL1Y are crucial in nuclear receptor mediated transcription activation.

REFERENCES

1. Disteche, C.M., et al. 1998. Mapping of the murine TBL1 gene reveals a new rearrangement between mouse and human X chromosomes. Mamm. Genome 9: 1062-1064.
2. Bassi, M.T., et al. 1999. X-linked late-onset sensorineural deafness caused by a deletion involving OA1 and a novel gene containing WD40 repeats. Am. J. Hum. Genet. 64: 1604-1616.
3. Guenther, M.G., et al. 2000. A core SMRT corepressor complex containing HDAC3 and TBL1, a WD40 repeat protein linked to deafness. Genes Dev. 14: 1048-1057.
4. Yoon, H.G., et al. 2003. Purification and functional characterization of the human N-CoR complex: the roles of HDAC3, TBL1 and TBLR1. EMBO J. 22: 1336-1346.

CHROMOSOMAL LOCATION

Genetic locus: TBL1X (human) mapping to Xp22.31.

PRODUCT

TBL1X 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 TBL1X shRNA Plasmid (h): sc-38888-SH and TBL1X shRNA (h) Lentiviral Particles: sc-38888-V as alternate gene silencing products.

For independent verification of TBL1X (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-38888A, sc-38888B and sc-38888C.

RESEARCH USE

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

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

TBL1X siRNA (h) is recommended for the inhibition of TBL1X 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

TBL1X (F-2): sc-365661 is recommended as a control antibody for monitoring of TBL1X 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TBL1X gene expression knockdown using RT-PCR Primer: TBL1X (h)-PR: sc-38888-PR (20 µl, 474 bp). 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.