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- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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SANTA CRUZ BIOTECHNOLOGY, INC.

TDH siRNA (m): sc-154156

BACKGROUND

L-Threonine degradation occurs via two different pathways. One of the first steps of a major degradation pathway involves catalysis of L-Threonine and NAD^+ to 2-amino-3-ketobutyrate and NADH by TDH (L-Threonine dehydrogenase). TDH, whose alternative names include FLJ25033 or SDR14E1P, is a 230 amino acid mitochondrial protein belonging to the sugar epimerase family. TDH is widely expressed in most tissues, excluding glioma cell lines, endotheilal cells and some leukemia cell lines. Unlike murine TDH, human TDH is considered a pseudogene as it encodes non-functional truncated proteins that lack portions of the NAD^+ binding motif and the majority of the C-terminus. Thus, human TDH does not participate in the L-Threonine degradation pathway, and three alternatively spliced isoforms of TDH exist. The gene encoding TDH maps to human chromosome 8, which consists of nearly 146 million base pairs, houses more than 800 genes and is associated with a variety of diseases and malignancies.

REFERENCES

1. Tressel, T., et al. 1986. Interaction between L-Threonine dehydrogenase and aminoacetone synthetase and mechanism of aminoacetone production. J. Biol. Chem. 261: 16428-16437.
2. Kashino, G., et al. 2001. Preferential expression of an intact WRN gene in Werner syndrome cell lines in which a normal chromosome 8 has been introduced. Biochem. Biophys. Res. Commun. 289: 111-115.
3. Edgar, A.J. 2002. The human L-Threonine 3-dehydrogenase gene is an expressed pseudogene. BMC Genet. 3: 18.
4. Appel, S., et al. 2002. Physical and transcriptional map of the critical region for keratolytic winter erythema (KWE) on chromosome 8p22-p23 between D8S550 and D8S1759. Eur. J. Hum. Genet. 10: 17-25.
5. McQueen, M.B., et al. 2005. Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence of susceptibility loci on chromosomes 6q and 8q. Am. J. Hum. Genet. 77: 582-595.

CHROMOSOMAL LOCATION

Genetic locus: Tdh (mouse) mapping to 14 D1.

PRODUCT

TDH 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TDH shRNA Plasmid (m): sc-154156-SH and TDH shRNA (m) Lentiviral Particles: sc-154156-V as alternate gene silencing products.

For independent verification of TDH (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-154156A, sc-154156B and sc-154156C.

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

TDH siRNA (m) is recommended for the inhibition of TDH 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 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 TDH gene expression knockdown using RT-PCR Primer: TDH (m)-PR: sc-154156-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.