SANTA CRUZ BIOTECHNOLOGY, INC.

TRH-DE siRNA (h): sc-76728

BACKGROUND

TRH-DE (thyrotropin-releasing hormone degrading enzyme), also known as PAP-II or PGPEP2, is a 1,024 amino acid single-pass type II membrane protein that belongs to the peptidase M1 family and is expressed predominately in brain. Existing as a disulfide-linked homodimer, TRH-DE uses zinc as a cofactor to catalyze the cleavage and subsequent inactivation of TRH. Human TRH-DE shares 96% sequence identity with its rat counterpart, suggesting a conserved role between species. The gene encoding TRH-DE maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

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2. Heuer, H., Schäfer, M.K. and Bauer, K. 1998. The thyrotropin-releasing hormone-degrading ectoenzyme: the third element of the thyrotropin-releasing hormone-signaling system. Thyroid 8: 915-920.
3. Schomburg, L., Turwitt, S., Prescher, G., Lohmann, D., Horsthemke, B. and Bauer, K. 1999. Human TRH-degrading ectoenzyme cDNA cloning, functional expression, genomic structure and chromosomal assignment. Eur. J. Biochem. 265: 415-422.
4. Bödeker, H., Keim, V., Fiedler, F., Dagorn, J.C. and Iovanna, J.L. 1999. PAP I interacts with itself, PAP II, PAP III, and lithostathine/reglalpha. Mol. Cell Biol. Res. Commun. 2: 150-154.
5. Papadopoulos, T., Kelly, J.A. and Bauer, K. 2001. Mutational analysis of the thyrotropin-releasing hormone-degrading ectoenzyme. similarities and differences with other members of the M1 family of aminopeptidases and thermolysin. Biochemistry 40: 9347-9355.

CHROMOSOMAL LOCATION

Genetic locus: TRHDE (human) mapping to 12q21.1.

PRODUCT

TRH-DE 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 TRH-DE shRNA Plasmid (h): sc-76728-SH and TRH-DE shRNA (h) Lentiviral Particles: sc-76728-V as alternate gene silencing products.

For independent verification of TRH-DE (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-76728A, sc-76728B and sc-76728C.

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

TRH-DE siRNA (h) is recommended for the inhibition of TRH-DE 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 TRH-DE gene expression knockdown using RT-PCR Primer: TRH-DE (h)-PR: sc-76728-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.