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SANTA CRUZ BIOTECHNOLOGY, INC.

TFIIH p8 siRNA (m): sc-154231

BACKGROUND

TFIIH p8, also known as GTF2H5 (general transcription factor IIH subunit 5), TTDA, TFB5 ortholog or TGF2H5, is a 71 amino acid nuclear protein that belongs to the TFB5 family. TFIIH p8 is a subunit of the TFIIH basal transcription factor complex that also contains TFIIH p80, TFIIH p89, TFIIH p62, TFIIH p44, TFIIH p34, TFIIH p52, Mat1, Cdk7 and cyclin H. As a component of the TFIIH basal transcription factor complex, TFIIH p8 is necessary for the stability of the TFIIH complex and for the presence of normal levels of TFIIH in the cell. TFIIH p8 is also involved in nucleotide excision repair (NER) of DNA and, when complexed to cyclin H, in RNA transcription of RNA polymerase II. Upon DNA damage, TFIIH p8 is phosphorylated most likely by Atm or ATR. Defects in TFIIH p8 are a cause of trichothiodystrophy photosensitive (TTDP), an autosomal recessive disease characterized by sulfur-deficient brittle hair and nails, ichthyosis, mental retardation, impaired sexual development, abnormal facies and cutaneous photosensitivity correlated with a nucleotide excision repair (NER) defect.

REFERENCES

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2. Hoogstraten, D., et al. 2002. Rapid switching of TFIIH between RNA polymerase I and II transcription and DNA repair *in vivo*. Mol. Cell 10: 1163-1174.
3. Ranish, J.A., et al. 2004. Identification of TFB5, a new component of general transcription and DNA repair factor IIH. Nat. Genet. 36: 707-713.
4. Giglia-Mari, G., et al. 2004. A new, tenth subunit of TFIIH is responsible for the DNA repair syndrome trichothiodystrophy group A. Nat. Genet. 36: 714-719.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608780. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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CHROMOSOMAL LOCATION

Genetic locus: Gtf2h5 (mouse) mapping to 17 A1.

PRODUCT

TFIIH p8 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 TFIIH p8 shRNA Plasmid (m): sc-154231-SH and TFIIH p8 shRNA (m) Lentiviral Particles: sc-154231-V as alternate gene silencing products.

For independent verification of TFIIH p8 (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-154231A, sc-154231B and sc-154231C.

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

TFIIH p8 siRNA (m) is recommended for the inhibition of TFIIH p8 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 TFIIH p8 gene expression knockdown using RT-PCR Primer: TFIIH p8 (m)-PR: sc-154231-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.