SANTA CRUZ BIOTECHNOLOGY, INC.

ZFP161 siRNA (h): sc-76958

BACKGROUND

ZFP161 (zinc finger protein 161), also known as ZF5, ZBTB14 or ZNF478, is a 449 amino acid member of the Krüppel C_2H_2-type zinc-finger protein family. Localized to distinct regions within the nucleus, ZFP161 functions both as a transcriptional repressor of Thymidine Kinase (TK) and c-Myc promoters and as a transcriptional activator of the dopamine transporter (DAT) promoter. ZFP161 contains one BTB (POZ) domain and five C_2H_2-type zinc fingers which direct its specific localization and nucleic acid binding, respectively. Defects in the gene encoding ZFP161 may be associated with holoprosencephaly type 4 (HPE4), a structural anomaly of the brain characterized by a flattened nasal tip with no visible septum, hypotelorism, lack of nasal bridge, ptosis of the left upper eyelid and, in some cases, infant death.

REFERENCES

1. Numoto, M., et al. 1993. Transcriptional repressor ZF5 identifies a new conserved domain in zinc finger proteins. Nucleic Acids Res. 21: 3767-3775.
2. Sobek-Klocke, I., et al. 1997. The human gene ZFP161 on 18p11.21-pter encodes a putative c-Myc repressor and is homologous to murine ZFP161 (Chr 17) and ZFP161-rs1 (X Chr). Genomics 43: 156-164.
3. Sugiura, K., et al. 1997. Expression cloning and intracellular localization of a human ZF5 homologue. Biochim. Biophys. Acta 1352: 23-26.
4. Obata, T., et al. 1999. Analysis of the consensus binding sequence and the DNA-binding domain of ZF5. Biochem. Biophys. Res. Commun. 255: 528-534.
5. Numoto, M., et al. 1999. ZF5, which is a Krüppel-type transcriptional repressor, requires the zinc finger domain for self-association. Biochem. Biophys. Res. Commun. 256: 573-578.
6. Lee, K.H., et al. 2004. Human zinc finger protein 161, a novel transcriptional activator of the dopamine transporter. Biochem. Biophys. Res. Commun. 313: 969-976.

CHROMOSOMAL LOCATION

Genetic locus: ZFP161 (human) mapping to 18p11.31.

PRODUCT

ZFP161 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 ZFP161 shRNA Plasmid (h): sc-76958-SH and ZFP161 shRNA (h) Lentiviral Particles: sc-76958-V as alternate gene silencing products.

For independent verification of ZFP161 (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-76958A, sc-76958B and sc-76958C.

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

ZFP161 siRNA (h) is recommended for the inhibition of ZFP161 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

ZFP161 (C-4): sc-514298 is recommended as a control antibody for monitoring of ZFP161 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 ZFP161 gene expression knockdown using RT-PCR Primer: ZFP161 (h)-PR: sc-76958-PR (20 µl, 559 bp). 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.