SANTA CRUZ BIOTECHNOLOGY, INC.

ZBTB20 siRNA (h): sc-78021

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. ZBTB20 (zinc finger and BTB domain containing 20), also known as HOF, DPZF, ODA-8S or ZNF288, is a 741 amino acid protein that localizes to the nucleus and contains one BTB (POZ) domain and five C_2H_2-type zinc fingers. Expressed in thymus, spleen, lymph node and fetal liver, ZBTB20 exists as either a monomer or a homodimer that is thought to function as a transcription factor, playing a role in hematopoiesis, oncogenesis and immune responses. Multiple isoforms of ZBTB20 exist due to alternative splicing events.

REFERENCES

1. Harboe, T.L., et al. 2000. Assignment of the human zinc finger gene, ZNF288, to chromosome 3 band q13.2 by radiation hybrid mapping and fluorescence *in situ* hybridisation. Cytogenet. Cell Genet. 89: 156-157.
2. Zhang, W., et al. 2001. Identification and characterization of DPZF, a novel human BTB/POZ zinc finger protein sharing homology to Bcl-6. Biochem. Biophys. Res. Commun. 282: 1067-1073.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606025. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Mitchelmore, C., et al. 2002. Characterization of two novel nuclear BTB/POZ domain zinc finger isoforms. Association with differentiation of hippocampal neurons, cerebellar granule cells, and macroglia. J. Biol. Chem. 277: 7598-7609.
5. Nielsen, J.V., et al. 2007. Hippocampus-like corticoneurogenesis induced by two isoforms of the BTB-zinc finger gene Zbtb20 in mice. Development 134: 1133-1140.
6. Xie, Z., et al. 2008. Zinc finger protein ZBTB20 is a key repressor of α-fetoprotein gene transcription in liver. Proc. Natl. Acad. Sci. USA 105: 10859-10864.
7. Sutherland, A.P., et al. 2009. Zinc finger protein Zbtb20 is essential for postnatal survival and glucose homeostasis. Mol. Cell. Biol. 29: 2804-2815.

CHROMOSOMAL LOCATION

Genetic locus: ZBTB20 (human) mapping to 3q13.31.

PRODUCT

ZBTB20 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 ZBTB20 shRNA Plasmid (h): sc-78021-SH and ZBTB20 shRNA (h) Lentiviral Particles: sc-78021-V as alternate gene silencing products.

For independent verification of ZBTB20 (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-78021A, sc-78021B and sc-78021C.

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

ZBTB20 siRNA (h) is recommended for the inhibition of ZBTB20 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

ZBTB20 (E-11): sc-515370 is recommended as a control antibody for monitoring of ZBTB20 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 ZBTB20 gene expression knockdown using RT-PCR Primer: ZBTB20 (h)-PR: sc-78021-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.