SANTA CRUZ BIOTECHNOLOGY, INC.

ZNF445 siRNA (h): sc-78037

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. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. As a member of the Krüppel C_2H_2-type zinc-finger protein family, ZNF445 (zinc finger protein 445), also known as ZNF168 (zinc finger protein 168) and ZKSCAN15 (zinc finger protein with KRAB and SCAN domains 15), is a 1,031 amino acid nuclear protein that contains one KRAB domain, one SCAN box domain and 14 C_2H_2-type zinc fingers. ZNF445 is highly expressed in adult skeletal muscle and testis, while expressed at lower levels in small intestine, pancreas, colon, thymus, uterus and peripheral blood leukocytes. Overexpression of ZNF445 results in the activation of c-Jun and serum response element, suggesting a potential role in the MAPK signaling pathway.

REFERENCES

1. Payre, F. and Vincent, A. 1988. Finger proteins and DNA-specific recognition: distinct patterns of conserved amino acids suggest different evolutionary modes. FEBS Lett. 234: 245-250.
2. Rosenfeld, R. and Margalit, H. 1993. Zinc fingers: conserved properties that can distinguish between spurious and actual DNA-binding motifs. J. Biomol. Struct. Dyn. 11: 557-570.
3. Mark, C., et al. 1999. Comparative analysis of KRAB zinc finger proteins in rodents and man: evidence for several evolutionarily distinct subfamilies of KRAB zinc finger genes. DNA Cell Biol. 18: 381-396.
4. Sander, T.L., et al. 2003. The SCAN domain defines a large family of zinc finger transcription factors. Gene 310: 29-38.
5. Urrutia, R. 2003. KRAB-containing zinc-finger repressor proteins. Genome Biol. 4: 231.
6. Edelstein, L.C. and Collins, T. 2005. The SCAN domain family of zinc finger transcription factors. Gene 359: 1-17.
7. Luo, K., et al. 2006. Activation of transcriptional activities of AP1 and SRE by a novel zinc finger protein ZNF445. Gene 367: 89-100.

CHROMOSOMAL LOCATION

Genetic locus: ZNF445 (human) mapping to 3p21.31.

PRODUCT

ZNF445 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 ZNF445 shRNA Plasmid (h): sc-78037-SH and ZNF445 shRNA (h) Lentiviral Particles: sc-78037-V as alternate gene silencing products.

For independent verification of ZNF445 (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-78037A, sc-78037B and sc-78037C.

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

ZNF445 siRNA (h) is recommended for the inhibition of ZNF445 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 ZNF445 gene expression knockdown using RT-PCR Primer: ZNF445 (h)-PR: sc-78037-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.