

ZNF750 siRNA (m): sc-155789

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. Zinc finger protein 750 (ZNF750) is a 723 amino acid member of the Krüppel C₂H₂-type zinc-finger protein family. Localized to the nucleus, ZNF750 contains one conserved C₂H₂ zinc finger domain and is expressed in the skin, lungs, prostate, placenta and thymus. ZNF750 is also expressed in primary human keratinocytes but not in fibroblasts. Mutations in the gene encoding ZNF750 cause Seborrhea-like dermatitis with psoriasiform, a condition characterized by a chronic and diffuse rash on the face and hyperkeratosis of skin over the elbows, soles, knees and palms.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610226. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Birnbaum, R.Y., et al. 2006. Seborrhea-like dermatitis with psoriasiform elements caused by a mutation in ZNF750, encoding a putative C₂H₂ zinc finger protein. *Nat. Genet.* 38: 749-751.
3. Yang, C.F., et al. 2008. A promoter sequence variant of ZNF750 is linked with familial psoriasis. *J. Invest. Dermatol.* 128: 1662-1668.
4. Birnbaum, R.Y., et al. 2011. Association analysis identifies ZNF750 regulatory variants in psoriasis. *BMC Med. Genet.* 12: 167.
5. Zarnegar, B.J., et al. 2012. Genomic profiling of a human organotypic model of AEC syndrome reveals ZNF750 as an essential downstream target of mutant TP63. *Am. J. Hum. Genet.* 91: 435-443.
6. Sen, G.L., et al. 2012. ZNF750 is a p63 target gene that induces KLF4 to drive terminal epidermal differentiation. *Dev. Cell* 22: 669-677.
7. Cohen, I., et al. 2012. ZNF750 is expressed in differentiated keratinocytes and regulates epidermal late differentiation genes. *PLoS ONE* 7: e42628.
8. Debniak, T., et al. 2014. Common variants of ZNF750, RPTOR and TRAF3IP2 genes and psoriasis risk. *Arch. Dermatol. Res.* 306: 231-238.
9. Boxer, L.D., et al. 2014. ZNF750 interacts with KLF4 and RCOR1, KDM1A, and CTBP1/2 chromatin regulators to repress epidermal progenitor genes and induce differentiation genes. *Genes Dev.* 28: 2013-2026.

CHROMOSOMAL LOCATION

Genetic locus: Zfp750 (mouse) mapping to 11 E2.

PRODUCT

ZNF750 siRNA (m) is a target-specific 19-25 nt siRNA 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 ZNF750 shRNA Plasmid (m): sc-155789-SH and ZNF750 shRNA (m) Lentiviral Particles: sc-155789-V as alternate gene silencing 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

ZNF750 siRNA (m) is recommended for the inhibition of ZNF750 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 ZNF750 gene expression knockdown using RT-PCR Primer: ZNF750 (m)-PR: sc-155789-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.