

ZNF746 siRNA (h): sc-89806

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. ZNF746 (zinc finger protein 746), also known as PARIS (parkin-interacting substrate) is a 644 amino acid cytoplasmic and nuclear protein that belongs to the Krüppel C₂H₂-type zinc-finger protein family. Existing as three alternatively spliced isoforms, ZNF746 functions as a transcription repressor and interacts with Parkin. The gene encoding ZNF746 maps to human chromosome 7q36.1 and mouse chromosome 6 B2.3.

REFERENCES

1. Bray, P., et al. 1991. Characterization and mapping of human genes encoding zinc finger proteins. *Proc. Natl. Acad. Sci. USA* 88: 9563-9567.
2. Aubry, M., et al. 1992. Cloning of six new genes with zinc finger motifs mapping to short and long arms of human acrocentric chromosome 22 (p and q11.2). *Genomics* 13: 641-648.
3. Lichter, P., et al. 1992. Clustering of C2-H2 zinc finger motif sequences within telomeric and fragile site regions of human chromosomes. *Genomics* 13: 999-1007.
4. Urrutia, R. 2003. KRAB-containing zinc-finger repressor proteins. *Genome Biol.* 4: 231.
5. Huntley, S., et al. 2006. A comprehensive catalog of human KRAB-associated zinc finger genes: insights into the evolutionary history of a large family of transcriptional repressors. *Genome Res.* 16: 669-677.
6. Tian, C.Y., et al. 2006. Progress in the study of KRAB zinc finger protein. *Yi Chuan* 28: 1451-1456.
7. Shin, J.H., et al. 2011. PARIS (ZNF746) repression of PGC-1 α contributes to neurodegeneration in Parkinson's disease. *Cell* 144: 689-702.

CHROMOSOMAL LOCATION

Genetic locus: ZNF746 (human) mapping to 7q36.1.

PRODUCT

ZNF746 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ZNF746 shRNA Plasmid (h): sc-89806-SH and ZNF746 shRNA (h) Lentiviral Particles: sc-89806-V as alternate gene silencing products.

For independent verification of ZNF746 (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-89806A, sc-89806B and sc-89806C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ZNF746 siRNA (h) is recommended for the inhibition of ZNF746 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 μ M in 66 μ l. 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

ZNF746 (C-11): sc-518212 is recommended as a control antibody for monitoring of ZNF746 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 ZNF746 gene expression knockdown using RT-PCR Primer: ZNF746 (h)-PR: sc-89806-PR (20 μ l, 594 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.