SANTA CRUZ BIOTECHNOLOGY, INC.

DEPP siRNA (h): sc-90781

BACKGROUND

DEPP (decidual protein induced by progesterone), also known as FIG (fasting-induced gene) or C10orf10, is a 212 amino acid protein expressed in various tissues, including pancreas, placenta, ovary, testis and kidney. DEPP contains a t-synaptosome-associated protein receptor (SNARE) coiled-coil homology domain and a peroxisomal targeting signal. Expression of DEPP is induced by fasting as well as by progesterone, testosterone and, to a much lower extent, estrogen. DEPP is thought affect gene expression during decidualization and in the decidua by modulating the effects of progesterone thereby increasing levels of phosphorylated ERK and activating Elk-1 transcription factor. DEPP is encoded by a gene located on human chromosome 10q11.21, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Boulton, T.G., et al. 1991. ERKs: a family of protein-serine/threonine kinases that are activated and tyrosine phosphorylated in response to Insulin and NGF. Cell 65: 663-675.
2. Deloukas, P., et. al. 2004. The DNA sequence and comparative analysis of human chromosome 10. Nature 429: 375-381.
3. Watanabe, H., et al. 2005. A novel protein DEPP, which is induced by progesterone in human endometrial stromal cells activates Elk-1 transcription factor. Mol. Hum. Reprod. 11: 471-476.
4. Ragel, B.T., et al. 2007. Identification of hypoxia-induced genes in a malignant glioma cell line (U-251) by cDNA microarray analysis. Neurosurg. Rev. 30: 181-187.
5. Kuroda, Y., et al. 2010. Insulin-mediated regulation of decidual protein induced by progesterone (DEPP) in adipose tissue and liver. Horm. Metab. Res. 42: 173-177.
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CHROMOSOMAL LOCATION

Genetic locus: C10orf10 (human) mapping to 10q11.21.

PRODUCT

DEPP 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 DEPP shRNA Plasmid (h): sc-90781-SH and DEPP shRNA (h) Lentiviral Particles: sc-90781-V as alternate gene silencing products.

For independent verification of DEPP (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-90781A, sc-90781B and sc-90781C.

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

DEPP siRNA (h) is recommended for the inhibition of DEPP 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 DEPP gene expression knockdown using RT-PCR Primer: DEPP (h)-PR: sc-90781-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kuwahara, M., et al. 2022. C10orf10/DEPP activates mitochondrial autophagy and maintains chondrocyte viability in the pathogenesis of osteoarthritis. FASEB J. 36: e22145.

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.