SANTA CRUZ BIOTECHNOLOGY, INC.

CILP siRNA (h): sc-60384

BACKGROUND

Cartilage intermediate layer protein (CILP), an extracellular matrix protein, shows abundant expression in cartilagenous tissues. CILP is expressed as two isoforms, CILP and CILP-2, which are differentially expressed by chondrocytes and induced by TGFβ1. This induction is mediated by Smad3 through direct interactions with *cis*-elements in the CILP promoter region. TGFβ also induces elevated chondrocyte extracellular inorganic pyrophosphate (PPi), which promotes the deposition of calcium pyrophosphate dihydrate crystals. The CILP isoforms have been implicated in common musculoskeletal disorders, including osteoarthritis, rheumatoid arthritis and lumbar disc disease.

REFERENCES

1. Johnson, K., et al. 2003. One of two chondrocyte-expressed isoforms of cartilage intermediate-layer protein functions as an Insulin-like growth factor 1 antagonist. Arthritis Rheum. 48: 1302-1314.
2. Yao, Z., et al. 2004. Characterization of cartilage intermediate layer protein (CILP)-induced arthropathy in mice. Ann. Rheum. Dis. 63: 252-258.
3. Valdes, A.M., et al. 2004. Association study of candidate genes for the prevalence and progression of knee osteoarthritis. Arthritis Rheum. 50: 2497-2507.
4. Lorenzo, P., et al. 2004. Altered patterns and synthesis of extracellular matrix macromolecules in early osteoarthritis. Matrix Biol. 23: 381-391.
5. Du, H., et al. 2005. The prevalence of autoan-tibodies against cartilage intermediate layer protein, YKL-39, osteopontin and cyclic citrullinated peptide in patients with early-stage knee osteoarthritis: evidence of a variety of autoimmune processes. Rheumatol. Int. 26: 35-41.
6. Seki, S., et al. 2005. A functional SNP in CILP, encoding cartilage intermediate layer protein, is associated with susceptibility to lumbar disc disease. Nat. Genet. 37: 607-612.
7. Mori, M., et al. 2006. Transcriptional regulation of the cartilage intermediate layer protein (CILP) gene. Biochem. Biophys. Res. Commun. 341: 121-127.

CHROMOSOMAL LOCATION

Genetic locus: CILP (human) mapping to 15q22.31.

PRODUCT

CILP siRNA (h) 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 CILP shRNA Plasmid (h): sc-60384-SH and CILP shRNA (h) Lentiviral Particles: sc-60384-V as alternate gene silencing products.

PROTOCOLS

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

CILP siRNA (h) is recommended for the inhibition of CILP 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 CILP gene expression knockdown using RT-PCR Primer: CILP (h)-PR: sc-60384-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. He, J., et al. 2018. Cartilage intermediate layer protein is regulated by mechanical stress and affects extracellular matrix synthesis. Mol. Med. Rep. 17: 6130-6137.

RESEARCH USE

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