SANTA CRUZ BIOTECHNOLOGY, INC.

YKL-39 siRNA (h): sc-63231

BACKGROUND

YKL-39, also known as CHI3L2 (chitinase 3-like 2) or YKL39, is a 390 amino acid cartilage protein that belongs to the chitinase family of chitin-fragmenting hydrolases. Highly expressed in chondrocytes (cartilage cells) and synoviocytes (fibroblastic cells that line joint cavities), YKL-39 binds glycan structures with high affinity. Although related to bacterial chitinases, YKL-39 lacks the characteristic glutamate active site and, thus, does not have enzymatic chitinase activity. Patients affected with rheumatoid arthritis (RA) have autoimmunity against YKL-39, suggesting that YKL-39 is involved in osteoarthritic and/or rheumatoid joint disease. Additionally, YKL-39 is upregulated in early degenerative cartilage diseases (such as RA) and may be a marker of chondrocyte activation in these autoimmune conditions.

REFERENCES

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: CHI3L2 (human) mapping to 1p13.3.

PRODUCT

YKL-39 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 YKL-39 shRNA Plasmid (h): sc-63231-SH and YKL-39 shRNA (h) Lentiviral Particles: sc-63231-V as alternate gene silencing products.

For independent verification of YKL-39 (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-63231A, sc-63231B and sc-63231C.

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

YKL-39 siRNA (h) is recommended for the inhibition of YKL-39 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 YKL-39 gene expression knockdown using RT-PCR Primer: YKL-39 (h)-PR: sc-63231-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.