SANTA CRUZ BIOTECHNOLOGY, INC.

COL29A1 siRNA (h): sc-78114

BACKGROUND

The extensive family of COL gene products (collagens) is composed of several chain types, including fibril-forming interstitial collagens (types I, II, III and V) and basement membrane collagens (type IV), each type containing multiple isoforms. Collagens are fibrous, extracellular matrix proteins with high tensile strength and are the major components of connective tissue, such as tendons and cartilage. All collagens contain a triple helix domain and frequently show lateral self-association in order to form complex connective tissues. Several collagens also play a role in cell adhesion, important for maintaining normal tissue architecture and function. COL29A1 (collagen α-5(VI) chain), also known as VWA4 (von Willebrand factor A domain-containing protein 4) or COL6A5, is a 2,615 amino acid extracellular matrix protein that belongs to the type VI collagen family. Existing as two alternatively spliced isoforms, COL29A1 contains ten VWFA domains and is expressed in skin, testis, small intestine and lung.

REFERENCES

1. McCarthy, J.B., et al. 1996. Cell adhesion to collagenous matrices. Biopolymers 40: 371-381.
2. Cremer, M.A., et al. 1998. The cartilage collagens: a review of their structure, organization, and role in the pathogenesis of experimental arthritis in animals and in human rheumatic disease. J. Mol. Med. 76: 275-288.
3. Alberio, L., et al. 1999. Review article: platelet-collagen interactions: membrane receptors and intracellular signalling pathways. Eur. J. Clin. Invest. 29: 1066-1076.
4. Boskey, A.L., et al. 1999. Collagen and bone strength. J. Bone Miner. Res. 14: 330-335.
5. Boskey, A.L., et al. 1999. Collagen and bone strength. J. Bone Miner. Res. 14: 330-335.
6. Alberio, L. and Dale, G.L. 1999. Platelet-collagen interactions: membrane receptors and intracellular signaling pathways. Eur. J. Clin. Invest. 29: 1066-1076.

CHROMOSOMAL LOCATION

Genetic locus: COL29A1 (human) mapping to 3q22.1.

PRODUCT

COL29A1 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 COL29A1 shRNA Plasmid (h): sc-78114-SH and COL29A1 shRNA (h) Lentiviral Particles: sc-78114-V as alternate gene silencing products.

For independent verification of COL29A1 (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-78114A, sc-78114B and sc-78114C.

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 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

COL29A1 siRNA (h) is recommended for the inhibition of COL29A1 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 COL29A1 gene expression knockdown using RT-PCR Primer: COL29A1 (h)-PR: sc-78114-PR (20 µl). 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.