SANTA CRUZ BIOTECHNOLOGY, INC.

COL25A1 siRNA (m): sc-60430

BACKGROUND

Collagen proteins (products of the COL gene family) 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. The Collagen Type XXV precursor produces the proteolytic fragment CLAC (collagenous Alzheimer amyloid plaque component), which deposits in senile plaques associated with amyloid beta peptides (Aβ) in the brains of patients with Alzheimer's disease. CLAC binds to the fibrillized form of Aβ, which disturbs the structure and function of plasma membranes.

REFERENCES

1. Hashimoto, T., et al. 2002. CLAC: a novel Alzheimer amyloid plaque component derived from a transmembrane precursor, CLAC-P/Collagen Type XXV. EMBO J. 21: 1524-1534.
2. Verdier, Y. and Penke, B. 2004. Binding sites of β-Amyloid peptide in cell plasma membrane and implications for Alzheimer's disease. Curr. Protein Pept. Sci. 5: 19-31.
3. Verdier, Y., et al. 2004. β-Amyloid peptide interactions with neuronal and glial cell plasma membrane: binding sites and implications for Alzheimers disease. J. Pept. Sci. 10: 229-248.
4. Soderberg, L., et al. 2005. Collagenous Alzheimer amyloid plaque component assembles amyloid fibrils into protease resistant aggregates. FEBS J. 272: 2231-2236.
5. Soderberg, L., et al. 2005. Characterization of the Alzheimers disease-associated CLAC protein and identification of an Amyloid β-peptide-binding site. J. Biol. Chem. 280: 1007-1015.
6. Osada, Y., et al. 2005. CLAC binds to Amyloid β peptides through the positively charged amino acid cluster within the collagenous domain 1 and inhibits formation of amyloid fibrils. J. Biol. Chem. 280: 8596-8605.

CHROMOSOMAL LOCATION

Genetic locus: Col25a1 (mouse) mapping to 3 G3.

PRODUCT

COL25A1 siRNA (m) 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 COL25A1 shRNA Plasmid (m): sc-60430-SH and COL25A1 shRNA (m) Lentiviral Particles: sc-60430-V as alternate gene silencing products.

For independent verification of COL25A1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60430A, sc-60430B and sc-60430C.

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

COL25A1 siRNA (m) is recommended for the inhibition of COL25A1 expression in mouse 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 COL25A1 gene expression knockdown using RT-PCR Primer: COL25A1 (m)-PR: sc-60430-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.