SANTA CRUZ BIOTECHNOLOGY, INC.

Corin siRNA (h): sc-60432

BACKGROUND

Corin, also designated atrial natriuretic peptide-converting enzyme, localizes to the membrane as a single-pass type II membrane protein. Corin acts as a serine protease that utilizes atrial and brain natriuretic peptides (ANP and BNP) as substrates, which play a role in blood coagulation, platelet activation, fibrinolysis, and thrombosis. The extracellular domain of Corin contains two frizzled-like cysteine-rich domains, eight low density lipoprotein receptor (LDLR) repeats, a macrophage scavenger receptor-like domain, and a trypsin-like protease domain at the C-terminus. The frizzled 1 domain and LDLR repeats 1-4 are responsible for substrate recognition. Corin converts pro-ANP to ANP by cleaving between arginine 123 and Serine 124. Corin is highly expressed in cardiomyocytes, and mice deficient in the Corin protein exhibit hypertension and have cardiac hypertrophy.

REFERENCES

1. Knappe, S., et al. 2004. Identification of domain structures in the propeptide of Corin essential for the processing of proatrial natriuretic peptide. J. Biol. Chem. 279: 34464-34471.
2. Langenickel, T.H., et al. 2004. Rat Corin gene: molecular cloning and reduced expression in experimental heart failure. Am. J. Physiol. Heart Circ. Physiol. 287: H1516-H1521.
3. Tran, K.L., et al. 2004. Upregulation of corin gene expression in myocardium. Am. J. Physiol. Heart Circ. Physiol. 287: H1625-H1631.
4. Dries, D.L., et al. 2005. Corin gene minor allele defined by 2 missense mutations is common in blacks and associated with high blood pressure and hypertension. Circulation 112: 2403-2410.
5. Wu, Q., et al. 2005. Serine proteases and cardiac function. Biochim. Biophys. Acta 1751: 82-94.
6. Chan, J.C., et al. 2005. Hypertension in mice lacking the proatrial natriuretic peptide convertase Corin. Proc. Natl. Acad. Sci. USA 102: 785-790.
7. Jiang, W., et al. 2005. Changes in production and metabolism of brain natriuretic peptide in rats with myocardial necrosis. Eur. J. Pharmacol. 507: 153-162.

CHROMOSOMAL LOCATION

Genetic locus: CORIN (human) mapping to 4p12.

PRODUCT

Corin 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 Corin shRNA Plasmid (h): sc-60432-SH and Corin shRNA (h) Lentiviral Particles: sc-60432-V as alternate gene silencing products.

For independent verification of Corin (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-60432A, sc-60432B and sc-60432C.

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

Corin siRNA (h) is recommended for the inhibition of Corin 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.

GENE EXPRESSION MONITORING

Corin (5B6): sc-293360 is recommended as a control antibody for monitoring of Corin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Corin gene expression knockdown using RT-PCR Primer: Corin (h)-PR: sc-60432-PR (20 µl, 428 bp). 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.

PROTOCOLS

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