SANTA CRUZ BIOTECHNOLOGY, INC.

cornulin siRNA (h): sc-88337

BACKGROUND

Cornulin, also known as tumor-related protein, CRNN, SEP53 (squamous epithelial heat shock protein 53), DRC1 or PDRC1, is a 495 amino acid cytoplasmic protein thought to play a role in epidermal differentiation and epithelial immune response. Specific to squamous epithelia cells, cornulin is expressed in esophagus, cultured primary keratinocytes, scalp skin, foreskin and fetal bladder. Cornulin shares structural homology with S-100 proteins, profilaggrin, repetin and trichohyalin, and may be a potential marker for late epidermal differentiation and cancer development. Cornulin is upregulated by deoxycholic acid (DCA), heat shock and ponasterone A, and contains one EF-hand domain through which it protects cells from DCA-induced death. The gene encoding cornulin maps to human chromosome 1q21.3 and mouse chromosome 3 F2.1.

REFERENCES

1. Xu, Z., et al. 2000. Novel human esophagus-specific gene c1orf10: cDNA cloning, gene structure, and frequent loss of expression in esophageal cancer. Genomics 69: 322-330.
2. Contzler, R., et al. 2005. Cornulin, a new member of the "fused gene" family, is expressed during epidermal differentiation. J. Invest. Dermatol. 124: 990-997.
3. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611312. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Nelson, L., et al. 2008. An animal model to evaluate the function and regulation of the adaptively evolving stress protein SEP53 in oesophageal bile damage responses. Cell Stress Chaperones 13: 375-385.
5. Liedεn, A., et al. 2009. Cornulin, a marker of late epidermal differentiation, is down-regulated in eczema. Allergy 64: 304-311.
6. Medland, S.E., et al. 2009. Common variants in the trichohyalin gene are associated with straight hair in Europeans. Am. J. Hum. Genet. 85: 750-755.

CHROMOSOMAL LOCATION

Genetic locus: CRNN (human) mapping to 1q21.3.

PRODUCT

cornulin 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 cornulin shRNA Plasmid (h): sc-88337-SH and cornulin shRNA (h) Lentiviral Particles: sc-88337-V as alternate gene silencing products.

For independent verification of cornulin (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-88337A, sc-88337B and sc-88337C.

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

cornulin siRNA (h) is recommended for the inhibition of cornulin 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

cornulin (A-3): sc-514602 is recommended as a control antibody for monitoring of cornulin 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 cornulin gene expression knockdown using RT-PCR Primer: cornulin (h)-PR: sc-88337-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.