SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 9 siRNA (h): sc-60501

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The Power to Question

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. Cytokeratin 9 is an unusually large, type I acidic cytokeratin that differentiates human plantar and palmar epidermal cells. Cytokeratin 9 localizes to the suprabasal layers as well as the upper epidermal layers such as the glandular ridges and interridges. The domains of Cytokeratin 9 include a head, an α-helical coiled-coil-forming rod and a tail; Cytokeratin 9 shares significant homology with Cytokeratin 10. Mutations in the Cytokeratin 9 gene correlate with the development of epidermolytic palmoplantar keratoderma (EPPK), an autosomal dominant inherited skin disorder that is characterized by hyperkeratosis of the skin over the palms and soles.

REFERENCES

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3. Stoner, M.L. and Wood, F.M. 1999. Cultured epithelial autograft "take" confirmed by the presence of Cytokeratin 9. J. Invest. Dermatol. 112: 391-392.
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5. Terrinoni, A., et al. 2004. Identification of the keratin K9 R162W mutation in patients of Italian origin with epidermolytic palmoplantar keratoderma. Eur. J. Dermatol. 14: 375-378.
6. Zhang, B.R., et al. 2004. Mutation analysis of keratin 9 gene in a pedigree with epidermolytic palmoplantar keratoderma. Zhonghua Yi Xue Yi Chuan Xue Za Zhi 21: 570-573.
7. Hamada, T., et al. 2005. The common KRT9 gene mutation in a Japanese patient with epidermolytic palmoplantar keratoderma and knuckle pad-like keratoses. J. Dermatol. 32: 500-502.
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CHROMOSOMAL LOCATION

Genetic locus: KRT9 (human) mapping to 17q21.2.

PROTOCOLS

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

PRODUCT

Cytokeratin 9 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 Cytokeratin 9 shRNA Plasmid (h): sc-60501-SH and Cytokeratin 9 shRNA (h) Lentiviral Particles: sc-60501-V as alternate gene silencing products.

For independent verification of Cytokeratin 9 (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-60501A, sc-60501B and sc-60501C.

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

Cytokeratin 9 siRNA (h) is recommended for the inhibition of Cytokeratin 9 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

Cytokeratin 9 (Ks9.70/Ks9.216): sc-58743 is recommended as a control antibody for monitoring of Cytokeratin 9 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cytokeratin 9 gene expression knockdown using RT-PCR Primer: Cytokeratin 9 (h)-PR: sc-60501-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.