

Cytokeratin 15 siRNA (m): sc-44525

BACKGROUND

Cytokeratin 15 (CK15, K15, K1CO, keratin15, type I cytoskeletal 15) is an intermediate filament (IF) type I protein that is responsible for the mechanical integrity of epithelial cells. Keratin family members are subdivided into cytokeratins and hair keratins. Most of the type I cytokeratins consist of acidic proteins which are arranged in pairs of heterotypic keratin chains, and are clustered in a region on chromosome 17q21.2. Cytokeratin 15 is a specific marker of stem cells of the hair-follicle bulge and may be a useful marker for diagnosis between basal cell carcinoma and trichoepithelioma. Trichoblastoma are benign neoplasms of follicular differentiation frequently found in nevus sebaceus. Many morphologic features are shared with nodular basal cell carcinoma, sometimes rendering a diagnosis difficult. Trichoblastoma and BCC show variable expression of Cytokeratin 15 and Cytokeratin 19, and absence of hair keratins.

REFERENCES

1. Kanitakis, J., et al. 1999. Expression of the hair stem cell-specific keratin 15 in pilar tumors of the skin. *Eur. J. Dermatol.* 9: 363-365.
2. Waseem, A., et al. 1999. Keratin 15 expression in stratified epithelia: downregulation in activated keratinocytes. *J. Invest. Dermatol.* 112: 362-369.
3. Werner, S., et al. 2000. Suppression of keratin 15 expression by transforming growth factor β *in vitro* and by cutaneous injury *in vivo*. *Exp. Cell Res.* 254: 80-90.
4. Whittock, N.V., et al. 2000. Genomic organization and amplification of the human keratin 15 and keratin 19 genes. *Biochem. Biophys. Res. Commun.* 267: 462-465.
5. Badock, V., et al. 2001. Apoptosis-induced cleavage of keratin 15 and keratin 17 in a human breast epithelial cell line. *Cell Death Differ.* 8: 308-315.
6. Kurzen, H., et al. 2001. Cytokeratins as markers of follicular differentiation: an immunohistochemical study of trichoblastoma and basal cell carcinoma. *Am. J. Dermatopathol.* 23: 501-509.

CHROMOSOMAL LOCATION

Genetic locus: Krt15 (mouse) mapping to 11 D.

PRODUCT

Cytokeratin 15 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Cytokeratin 15 shRNA Plasmid (m): sc-44525-SH and Cytokeratin 15 shRNA (m) Lentiviral Particles: sc-44525-V as alternate gene silencing products.

For independent verification of Cytokeratin 15 (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-44525A, sc-44525B and sc-44525C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Cytokeratin 15 siRNA (m) is recommended for the inhibition of Cytokeratin 15 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 μ M in 66 μ l. 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 15 (LHK15): sc-47697 is recommended as a control antibody for monitoring of Cytokeratin 15 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Cytokeratin 15 gene expression knockdown using RT-PCR Primer: Cytokeratin 15 (m)-PR: sc-44525-PR (20 μ l). 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.