SANTA CRUZ BIOTECHNOLOGY, INC.

LCE3D siRNA (h): sc-78809

BACKGROUND

The lipid-corneocyte structure of stratum corneum is responsible for barrier activity of skin and internal barrier-forming epithelial linings. Corneocyte stability is dependent upon the outer cornified envelope and is essential for maintenance of barrier function. Within the epidermal differentiation complex on human chromosome 1 and mouse chromosome 3 lies the late cornified envelope (LCE) gene cluster, which contains multiple conserved genes encoding stratum-corneum proteins. LCE3D (late cornified envelope 3D), also known as LEP16 (late envelope protein 16), SPRL6A (small proline-rich-like epidermal differentiation complex protein 6A) or SPRL6B, is a 92 amino acid skin-specific protein expressed in adult trunk skin, adult arm skin, fetal skin, penal skin, vulva, esophagus and tongue. Belonging to the LCE family, LCE3D, like other family members, may be involved in barrier repair after injury or inflammation.

REFERENCES

1. Akiyama, M., et al. 1999. Periderm cells form cornified cell envelope in their regression process during human epidermal development. J. Invest. Dermatol. 112: 903-909.
2. Marshall, D., et al. 2001. Differentially expressed late constituents of the epidermal cornified envelope. Proc. Natl. Acad. Sci. USA 98: 13031-13036.
3. Jackson, B., et al. 2005. Late cornified envelope family in differentiating epithelia—response to calcium and ultraviolet irradiation. J. Invest. Dermatol. 124: 1062-1070.
4. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612616. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Docampo, E., et al. 2010. Deletion of the late cornified envelope genes, LCE3C and LCE3B, is associated with rheumatoid arthritis. Arthritis Rheum. 62: 1246-1251.
6. Coto, E., et al. 2010. Mutation analysis of the LCE3B/LCE3C genes in Psoriasis. BMC Med. Genet. 11: 45.
7. Bergboer, J.G., et al. 2010. Deletion of late cornified envelope 3B and 3C genes is not associated with atopic dermatitis. J. Invest. Dermatol. 130: 2057-2061.
8. Bergboer, J.G., et al. 2011. Psoriasis risk genes of the late cornified envelope-3 group are distinctly expressed compared with genes of other LCE groups. Am. J. Pathol. 178: 1470-1477.

CHROMOSOMAL LOCATION

Genetic locus: LCE3D (human) mapping to 1q21.3.

PRODUCT

LCE3D siRNA (h) is a target-specific 19-25 nt siRNA 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 LCE3D shRNA Plasmid (h): sc-78809-SH and LCE3D shRNA (h) Lentiviral Particles: sc-78809-V as alternate gene silencing 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

LCE3D siRNA (h) is recommended for the inhibition of LCE3D 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LCE3D gene expression knockdown using RT-PCR Primer: LCE3D (h)-PR: sc-78809-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.

PROTOCOLS

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