SANTA CRUZ BIOTECHNOLOGY, INC.

Langerin siRNA (m): sc-43889

BACKGROUND

Langerhans cells (LCs) are a subset of immature dendritic cells (DCs) that specifically localize in the epidermis and other mucosal epithelia. Epidermal LCs possess strong immunostimulatory capacity and play a central role in the initiation and regulation of immune responses. Langerin (CD207) is a Ca^{2+}-dependent, C-type lectin domain-containing, type II transmembrane protein that induces epidermal LCs to differentiate into Birbeck granules (BG). BGs are organelles with superimposing and zippering membranes that influence proper class I type antigen presentation to the circulating T cells. Human spleen, lymph node, thymus, liver, lung and heart express Langerin protein. The human Langerin gene maps to chromosome 2p13.3 and encodes a 328 amino acid protein.

REFERENCES

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4. Larregina, A.T., et al. 2001. Dermal-resident $CD14^+$ cells differentiate into Langerhans cells. Nat. Immunol. 2: 1151-1158.
5. Valladeau, J., et al. 2002. Identification of mouse langerin/CD207 in Langerhans cells and some dendritic cells of lymphoid tissues. J. Immunol. 168: 782-792.
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7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604862. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
8. LocusLink Report (LocusID: 2243). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Cd207 (mouse) mapping to 6 C3.

PRODUCT

Langerin 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Langerin shRNA Plasmid (m): sc-43889-SH and Langerin shRNA (m) Lentiviral Particles: sc-43889-V as alternate gene silencing products.

For independent verification of Langerin (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-43889A, sc-43889B and sc-43889C.

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

Langerin siRNA (m) is recommended for the inhibition of Langerin 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 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 Langerin gene expression knockdown using RT-PCR Primer: Langerin (m)-PR: sc-43889-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.