SANTA CRUZ BIOTECHNOLOGY, INC.

BTNL2 siRNA (m): sc-141785

BACKGROUND

Butyrophilin is a glycoprotein that is specifically expressed on the apical surface of mammary epithelial cells during lactation and becomes incorporated as an integral protein into the membrane of the milk fat globule during the budding and secretion of fat droplets into milk. BTNL2 (butyrophilin-like protein 2), also known as BTL-II, is a 455 amino acid single-pass type II membrane protein that acts as a negative regulator of T cell proliferation. Expressed in thymus, brain, kidney, heart, liver, small intestine, testis, ovary, pancreas and leukocytes, BTNL2 exists as at least six alternatively spliced isoforms, which are encoded by a gene located on human chromosome 6p21.32. Expression of BTNL2 isoform 3 is associated with susceptibility to sarcoidosis type 2 (SS2), an immune disorder that causes chronic inflammatory granulomatous lesions.

REFERENCES

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3. Stammers, M., et al. 2000. BTL-II: a polymorphic locus with homology to the butyrophilin gene family, located at the border of the major histocompatibility complex class II and class III regions in human and mouse. Immunogenetics 51: 373-382.
4. Cavaletto, M., et al. 2002. A proteomic approach to evaluate the butyrophilin gene family expression in human milk fat globule membrane. Proteomics 2: 850-856.
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7. Nguyen, T., et al. 2006. BTNL2, a butyrophilin-like molecule that functions to inhibit T cell activation. J. Immunol. 176: 7354-7360.
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CHROMOSOMAL LOCATION

Genetic locus: Btnl2 (mouse) mapping to 17 B1.

PRODUCT

BTNL2 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 BTNL2 shRNA Plasmid (m): sc-141785-SH and BTNL2 shRNA (m) Lentiviral Particles: sc-141785-V as alternate gene silencing products.

For independent verification of BTNL2 (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-141785A, sc-141785B and sc-141785C.

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

BTNL2 siRNA (m) is recommended for the inhibition of BTNL2 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 BTNL2 gene expression knockdown using RT-PCR Primer: BTNL2 (m)-PR: sc-141785-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.