SANTA CRUZ BIOTECHNOLOGY, INC.

BTN2A2 siRNA (h): sc-95423

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. BTN2A2 (butyrophilin subfamily 2 member A2), also known as BTF2, is a 523 amino acid multi-pass membrane protein that plays a role in fatty-acid, sterol and lipid metabolism. A member of the immunoglobulin superfamily and BTN/MOG family, BTN2A2 exists as two alternatively spliced isoforms containing one B30.2/SPRY domain, an Ig-like C2-type (immunoglobulin-like) domain and an Ig-like V-type (immunoglobulin-like) domain. BTN2A2 is highly expressed in bone marrow, brain, muscle, small intestine, pancreas and spleen, and is found at moderate levels in kidney, lung and liver.

REFERENCES

1. Mather, I.H., et al. 1993. A review of the molecular and cellular biology of butyrophilin, the major protein of bovine milk fat globule membrane. J. Dairy Sci. 76: 3832-3850.
2. Ogg, S.L., et al. 1996. Structural organization and mammary-specific expression of the butyrophilin gene. Mamm. Genome 7: 900-905.
3. Davey, H.W., et al. 1997. Structure and sequence of the bovine butyrophilin gene. Gene 199: 57-62.
4. Tazi-Ahnini, R., et al. 1997. Cloning, localization, and structure of new members of the butyrophilin gene family in the juxta-telomeric region of the major histocompatibility complex. Immunogenetics 47: 55-63.
5. Henry, J., et al. 1999. Structure and evolution of the extended B7 family. Immunol. Today 20: 285-288.
6. Rhodes, D.A., et al. 2001. The cluster of BTN genes in the extended major histocompatibility complex. Genomics 71: 351-362.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: BTN2A2 (human) mapping to 6p22.2.

PRODUCT

BTN2A2 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 BTN2A2 shRNA Plasmid (h): sc-95423-SH and BTN2A2 shRNA (h) Lentiviral Particles: sc-95423-V as alternate gene silencing products.

For independent verification of BTN2A2 (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-95423A, sc-95423B and sc-95423C.

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

BTN2A2 siRNA (h) is recommended for the inhibition of BTN2A2 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 BTN2A2 gene expression knockdown using RT-PCR Primer: BTN2A2 (h)-PR: sc-95423-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.