SANTA CRUZ BIOTECHNOLOGY, INC.

BTN2A3 siRNA (h): sc-95351

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. BTN2A3 (butyrophilin subfamily 2 member A3) is a 586 amino acid single-pass type I membrane protein that belongs to the immunoglobulin superfamily and BTN/MOG family. BTN2A3 contains one B30.2/SPRY domain, an Ig-like V-type (immunoglobulin-like) domain, and is encoded by a gene that maps to human chromosome 6p22.2. Chromosome 6 contains 170 million base pairs and comprises nearly 6% of the human genome. Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

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2. Brunner, H.G., et al. 1994. A Stickler syndrome gene is linked to chromosome 6 near the COL11A2 gene. Hum. Mol. Genet. 3: 1561-1564.
3. Ogg, S.L., et al. 1996. Structural organization and mammary-specific expression of the butyrophilin gene. Mamm. Genome 7: 900-905.
4. Davey, H.W., et al. 1997. Structure and sequence of the bovine butyrophilin gene. Gene 199: 57-62.
5. 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.
6. Cesari, R., et al. 2003. Parkin, a gene implicated in autosomal recessive juvenile parkinsonism, is a candidate tumor suppressor gene on chromosome 6q25-q27. Proc. Natl. Acad. Sci. USA 100: 5956-5961.
7. Robenek, H., et al. 2006. Butyrophilin controls milk fat globule secretion. Proc. Natl. Acad. Sci. USA 103: 10385-10390.

CHROMOSOMAL LOCATION

Genetic locus: BTN2A3P (human) mapping to 6p22.2.

PRODUCT

BTN2A3 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 BTN2A3 shRNA Plasmid (h): sc-95351-SH and BTN2A3 shRNA (h) Lentiviral Particles: sc-95351-V as alternate gene silencing products.

For independent verification of BTN2A3 (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-95351A, sc-95351B and sc-95351C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

BTN2A3 siRNA (h) is recommended for the inhibition of BTN2A3 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 BTN2A3 gene expression knockdown using RT-PCR Primer: BTN2A3 (h)-PR: sc-95351-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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