SANTA CRUZ BIOTECHNOLOGY, INC.

BTN3A1 siRNA (h): sc-95618

BACKGROUND

BTN3A1 (butyrophilin, subfamily 3, member A1), also known as BTF5, BT3.1 or CD277, is a 513 amino acid single-pass type I membrane protein belonging to the BTN (butyrophilin)/MOG family and immunoglobulin (Ig) superfamily. While highest expression levels are found in lung, heart and pancreas, BTN3A1 is found at moderate levels in muscle, liver and placenta. Expressed as two alternatively spliced isoforms, BTN3A1 contains one B30.2/SPRY domain and two Ig-like V-type (immunoglobulin-like) domains. The gene encoding BTN3A1 maps to human chromosome 6, in close proximity to MHC class I genes. Human chromosome 6 contains 170 million base pairs and comprises nearly 6% of the human genome. 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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3. 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.
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.
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6. Namihira, T., et al. 2004. Autosomal recessive juvenile Parkinson's disease with partial trisomy of chromosome 6q syndrome: a case report. Psychiatry Clin. Neurosci. 58: 672-673.
7. Abou Jamra, R., et al. 2007. The first genomewide interaction and locus-heterogeneity linkage scan in bipolar affective disorder: strong evidence of epistatic effects between loci on chromosomes 2q and 6q. Am. J. Hum. Genet. 81: 974-986.

CHROMOSOMAL LOCATION

Genetic locus: BTN3A1 (human) mapping to 6p22.2.

PRODUCT

BTN3A1 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 BTN3A1 shRNA Plasmid (h): sc-95618-SH and BTN3A1 shRNA (h) Lentiviral Particles: sc-95618-V as alternate gene silencing products.

For independent verification of BTN3A1 (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-95618A, sc-95618B and sc-95618C.

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

BTN3A1 siRNA (h) is recommended for the inhibition of BTN3A1 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 BTN3A1 gene expression knockdown using RT-PCR Primer: BTN3A1 (h)-PR: sc-95618-PR (20 µl, 599 bp). 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.