SANTA CRUZ BIOTECHNOLOGY, INC.

BBS10 siRNA (m): sc-72621

BACKGROUND

Bardet-Biedl syndrome (BBS) is a pleiotropic genetic disorder characterized by obesity, photoreceptor degeneration, polydactyly, hypogenitalism, renal abnormalities and developmental delay. Other associated clinical findings in BBS patients include diabetes, hypertension and congenital heart defects. BBS genes map to multiple loci and encode 14 proteins, BBS1-BBS14. Many BBS genes encode basal body or cilia proteins, suggesting that BBS is a ciliary dysfunction disorder. BBS10 (Bardet-Biedl syndrome 10), also known as chromosome 12 open reading fame 58, C12orf58 or FLJ23560, is a novel 723 amino acid protein belonging to the TCP-1 chaperonin family. BBS10 localizes to the basal body of primary cilium and assists in protein folding upon ATP hydrolysis. Inhibition of BBS10 has been found to impair ciliogenesis, activate the glycogen synthase kinase 3 pathway and cause peroxisome proliferator-activated receptor nuclear accumulation. The gene encoding BBS10 contains two exons and maps to human chromosome 12q21.2.

REFERENCES

1. Laurier, V., et al. 2006. Pitfalls of homozygosity mapping: an extended consanguineous Bardet-Biedl syndrome family with two mutant genes (BBS2, BBS10), three mutations, but no triallelism. Eur. J. Hum. Genet. 14: 1195-1203.
2. Stoetzel, C., et al. 2006. BBS10 encodes a vertebrate-specific chaperonin-like protein and is a major BBS locus. Nat. Genet. 38: 521-524.
3. Stoetzel, C., et al. 2007. Identification of a novel BBS gene (BBS12) highlights the major role of a vertebrate-specific branch of chaperonin-related proteins in Bardet-Biedl syndrome. Am. J. Hum. Genet. 80: 1-11.
4. Gerth, C., et al. 2008. Retinal morphology in patients with BBS1 and BBS10 related Bardet-Biedl Syndrome evaluated by Fourier-domain optical coherence tomography. Vision Res. 48: 392-399.
5. Marion, V., et al. 2009. Transient ciliogenesis involving Bardet-Biedl syndrome proteins is a fundamental characteristic of adipogenic differentiation. Proc. Natl. Acad. Sci. USA 106: 1820-1825.

CHROMOSOMAL LOCATION

Genetic locus: Bbs10 (mouse) mapping to 10 D1.

PRODUCT

BBS10 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 BBS10 shRNA Plasmid (m): sc-72621-SH and BBS10 shRNA (m) Lentiviral Particles: sc-72621-V as alternate gene silencing products.

For independent verification of BBS10 (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-72621A, sc-72621B and sc-72621C.

PROTOCOLS

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

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

BBS10 siRNA (m) is recommended for the inhibition of BBS10 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 BBS10 gene expression knockdown using RT-PCR Primer: BBS10 (m)-PR: sc-72621-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.