SANTA CRUZ BIOTECHNOLOGY, INC.

BTBD1 siRNA (h): sc-90045

BACKGROUND

BTBD1 (BTB/POZ domain containing 1), also known as NS5ATP8 (hepatitis C virus (HCV) NS5A-transactivated protein 8), is a ubiquitously expressed cytoplasmic protein with predominant expression in skeletal muscle and heart. BTBD1 is expressed in a wide variety of species ranging from *C. elegans* to humans and specifically localizes to cytoplasmic bodies. It shares 80% amino acid sequence identity with its homolog, BTBD2. BTBD1 contains one BTB/POZ domain, which is a hydrophobic-rich motif known to mediate homomeric and heteromeric POZ-POZ interactions that are commonly found at the N-terminus of developmentally regulated zinc-finger transcription factors. BTBD1 also contains a C-terminal kelch-like region and a PHR-like region. Via its C-terminus, BTBD1 is capable of interacting with Topo I. In addition, BTBD1 is required for myoblast growth and differentiation.

REFERENCES

1. Carim-Todd, L., et al. 2001. Identification and characterization of BTBD1, a novel BTB domain containing gene on human chromosome 15q24. Gene 262: 275-281.
2. Xu, L., et al. 2002. Characterization of BTBD1 and BTBD2, two similar BTB-domain-containing Kelch-like proteins that interact with Topoisomerase I. BMC Genomics 3: 1.
3. Xu, L., et al. 2003. BTBD1 and BTBD2 colocalize to cytoplasmic bodies with the RBCC/tripartite motif protein, TRIM5δ. Exp. Cell Res. 288: 84-93.
4. Pisani, D.F., et al. 2004. The topoisomerase 1-interacting protein BTBD1 is essential for muscle cell differentiation. Cell Death Differ. 11: 1157-1165.
5. Smith, T.H., et al. 2006. Identification and isolation of a BTB-POZ-containing gene expressed in oocytes and early embryos of the zebrafish *Danio rerio*. Genome 49: 808-814.
6. Wu, W., et al. 2006. Thorough validation of siRNA-induced cell death phenotypes defines new anti-apoptotic protein. Nucleic Acids Res. 34: E13-E13.
7. Pisani, D.F., et al. 2007. Involvement of BTBD1 in mesenchymal differentiation. Exp. Cell Res. 313: 2417-2426.
8. Bilic, I., et al. 2007. The role of BTB domain-containing zinc finger proteins in T cell development and function. Immunol. Lett. 108: 1-9.

CHROMOSOMAL LOCATION

Genetic locus: BTBD1 (human) mapping to 15q25.2.

PRODUCT

BTBD1 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 BTBD1 shRNA Plasmid (h): sc-90045-SH and BTBD1 shRNA (h) Lentiviral Particles: sc-90045-V as alternate gene silencing products.

For independent verification of BTBD1 (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-90045A, sc-90045B and sc-90045C.

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

BTBD1 siRNA (h) is recommended for the inhibition of BTBD1 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.

GENE EXPRESSION MONITORING

BTBD1 (A-12): sc-398235 is recommended as a control antibody for monitoring of BTBD1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BTBD1 gene expression knockdown using RT-PCR Primer: BTBD1 (h)-PR: sc-90045-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.