SANTA CRUZ BIOTECHNOLOGY, INC.

BTBD10 siRNA (h): sc-96459

BACKGROUND

The BTB (broad-complex, Tramtrack and Bric a brac) domain, also known as the POZ (Poxvirus and zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C_2H_2-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. BTBD10 (BTB (POZ) domain containing 10), also known as GMRP1, is a ubiquitously expressed nuclear protein found at highest levels in adult testis, brain and small intestine and weakly expressed in colon, lung, liver, kidney, spleen,pancreas, thymus, prostate, heart and ovary. Down-regulated in glioma, BTBD10 binds PP2A (protein phosphatase 2A) to inhibit dephosphorylation of Akts and is suggested to be a suppressor of cell death as well as an enhancer of cell growth. BTBD10 contains one BTB (POZ) domain and is encoded by a gene mapping to human chromosome 11p15.2.

REFERENCES

1. Bardwell, V.J., et al. 1994. The POZ domain: a conserved protein-protein interaction motif. Genes Dev. 8: 1664-1677.
2. Zollman, S., et al. 1994. The BTB domain, found primarily in zinc finger proteins, defines an evolutionarily conserved family that includes several developmentally regulated genes in *Drosophila*. Proc. Natl. Acad. Sci. USA 91: 10717-10721.
3. Ahmad, K.F., et al. 1998. Crystal structure of the BTB domain from PLZF. Proc. Natl. Acad. Sci. USA 95: 12123-12128.
4. Chen, J., et al. 2004. Molecular cloning and characterization of a novel human BTB domain-containing gene, BTBD10, which is down-regulated in glioma. Gene 340: 61-69.
5. Kelly, K.F., et al. 2006. POZ for effect—POZ-ZF transcription factors in cancer and development. Trends Cell Biol. 16: 578-587.
6. Nawa, M., et al. 2008. A novel Akt/PKB-interacting protein promotes cell adhesion and inhibits familial amyotrophic lateral sclerosis-linked mutant SOD1-induced neuronal death via inhibition of PP2A-mediated dephosphorylation of Akt/PKB. Cell. Signal. 20: 493-505.

CHROMOSOMAL LOCATION

Genetic locus: BTBD10 (human) mapping to 11p15.2.

PRODUCT

BTBD10 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 BTBD10 shRNA Plasmid (h): sc-96459-SH and BTBD10 shRNA (h) Lentiviral Particles: sc-96459-V as alternate gene silencing products.

For independent verification of BTBD10 (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-96459A, sc-96459B and sc-96459C.

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

BTBD10 siRNA (h) is recommended for the inhibition of BTBD10 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

BTBD10 (B-1): sc-377183 is recommended as a control antibody for monitoring of BTBD10 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BTBD10 gene expression knockdown using RT-PCR Primer: BTBD10 (h)-PR: sc-96459-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.