

KCTD1 siRNA (h): sc-75373

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 C₂H₂-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. KCTD1 (potassium channel tetramerisation domain containing 1), also known as C18orf5, is a 257 amino acid protein that contains one BTB domain, suggesting an involvement in transcriptional control. The gene encoding KCTD1 maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

1. Bardwell, V.J. and Treisman, R. 1994. The POZ domain: a conserved protein-protein interaction motif. *Genes Dev.* 8: 1664-1677.
2. Zollman, S., Godt, D., Prive, G.G., Couderc, J.L. and Laski, F.A. 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., Engel, C.K. and Prive, G.G. 1998. Crystal structure of the BTB domain from PLZF. *Proc. Natl. Acad. Sci. USA* 95: 12123-12128.
4. Gocke, C.B., Yu, H. and Kang, J. 2005. Systematic identification and analysis of mammalian small ubiquitin-like modifier substrates. *J. Biol. Chem.* 280: 5004-5012.
5. Ding, X.F., Luo, C., Ren, K.Q., Zhang, J., Zhou, J.L., Hu, X., Liu, R.S., Wang, Y., Gao, X. and Zhang, J. 2008. Characterization and expression of a human KCTD1 gene containing the BTB domain, which mediates transcriptional repression and homomeric interactions. *DNA Cell Biol.* 27: 257-265.

CHROMOSOMAL LOCATION

Genetic locus: KCTD1 (human) mapping to 18q11.2.

PRODUCT

KCTD1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KCTD1 shRNA Plasmid (h): sc-75373-SH and KCTD1 shRNA (h) Lentiviral Particles: sc-75373-V as alternate gene silencing products.

For independent verification of KCTD1 (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-75373A, sc-75373B and sc-75373C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCL, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

KCTD1 siRNA (h) is recommended for the inhibition of KCTD1 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 μ M in 66 μ l. 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 KCTD1 gene expression knockdown using RT-PCR Primer: KCTD1 (h)-PR: sc-75373-PR (20 μ l). 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.