

KCTD10 siRNA (h): sc-95987

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. KCTD10 (potassium channel tetramerisation domain containing 10), also known as ULR061 or MSTP028, is a 313 amino acid protein that contains one BTB domain and is highly expressed in lung and moderately expressed in heart and testis. KCTD10 interacts with proliferating cell nuclear antigen (PCNA) and the small subunit of polymerase δ and plays a role in DNA repair, DNA replication and cell-cycle control. KCTD10 expression is regulated by SP1 and AP-2 α .

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. Zhou, J., Ren, K., Liu, X., Xiong, X., Hu, X. and Zhang, J. 2005. A novel PDIP1-related protein, KCTD10, that interacts with proliferating cell nuclear antigen and DNA polymerase δ . *Biochim. Biophys. Acta* 1729: 200-203.
5. Sun, J.K., Zhang, B., Zhang, J. and Zhou, J.L. 2007. Preparation of mouse KCTD10 antibody and expression analysis of KCTD10 in neuroepithelium of neural tube and dorsal root ganglion. *Sheng Wu Gong Cheng Xue Bao* 23: 1011-1016.
6. Junyent, M., Parnell, L.D., Lai, C.Q., Lee, Y.C., Smith, C.E., Arnett, D.K., Tsai, M.Y., Kabagambe, E.K., Straka, R.J., Province, M., An, P., Borecki, I. and Ordovás, J.M. 2009. Novel variants at KCTD10, MVK, and MMAB genes interact with dietary carbohydrates to modulate HDL-cholesterol concentrations in the genetics of lipid lowering drugs and diet network study. *Am. J. Clin. Nutr.* 90: 686-694.
7. Liu, R., Zhou, A., Ren, D., He, A., Hu, X., Zhang, W., Yang, L., Liu, M., Li, H., Zhou, J., Xiang, S. and Zhang, J. 2009. Transcription factor specificity protein 1 (SP1) and activating protein 2 α (AP-2 α) regulate expression of human KCTD10 gene by binding to proximal region of promoter. *FEBS J.* 276: 1114-1124.
8. Wang, Y., Zheng, Y., Luo, F., Fan, X., Chen, J., Zhang, C. and Hui, R. 2009. KCTD10 interacts with proliferating cell nuclear antigen and its down-regulation could inhibit cell proliferation. *J. Cell. Biochem.* 106: 409-413.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: KCTD10 (human) mapping to 12q24.11.

PRODUCT

KCTD10 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 KCTD10 shRNA Plasmid (h): sc-95987-SH and KCTD10 shRNA (h) Lentiviral Particles: sc-95987-V as alternate gene silencing products.

For independent verification of KCTD10 (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-95987A, sc-95987B and sc-95987C.

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

KCTD10 siRNA (h) is recommended for the inhibition of KCTD10 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 KCTD10 gene expression knockdown using RT-PCR Primer: KCTD10 (h)-PR: sc-95987-PR (20 μ l, 588 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.