SANTA CRUZ BIOTECHNOLOGY, INC.

KCTD13 siRNA (h): sc-75375

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. KCTD13 (potassium channel tetramerisation domain containing 13), also known as polymerase δ-interacting protein 1 (PDIP1 or POLDIP1), is a 329 amino acid protein that contains one BTB domain and is expressed in a wide variety of tissues. KCTD13 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. KCTD13 is induced by tumor necrosis factor α (TNFα) and by IL-6 suggesting KCTD13 provides a link between cytokine activation and DNA replication.

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., 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. He, H., et al. 2001. A tumor necrosis factor α- and interleukin 6-inducible protein that interacts with the small subunit of DNA polymerase δ and proliferating cell nuclear antigen. Proc. Natl. Acad. Sci. USA 98: 11979-11984.
5. Zhou, J., et al. 2005. Cloning of two rat PDIP1 related genes and their interactions with proliferating cell nuclear antigen. J. Exp. Zoolog. Part A Comp. Exp. Biol. 303: 227-240.
6. Zhou, J., et al. 2005. Genomic organization, promoter characterization and roles of Sp1 and AP-2 in the basal transcription of mouse PDIP1 gene. FEBS Lett. 579: 1715-1722.

CHROMOSOMAL LOCATION

Genetic locus: KCTD13 (human) mapping to 16p11.2.

PRODUCT

KCTD13 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 KCTD13 shRNA Plasmid (h): sc-75375-SH and KCTD13 shRNA (h) Lentiviral Particles: sc-75375-V as alternate gene silencing products.

For independent verification of KCTD13 (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-75375A, sc-75375B and sc-75375C.

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

KCTD13 siRNA (h) is recommended for the inhibition of KCTD13 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

KCTD13 (B-12): sc-393994 is recommended as a control antibody for monitoring of KCTD13 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KCTD13 gene expression knockdown using RT-PCR Primer: KCTD13 (h)-PR: sc-75375-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.