SANTA CRUZ BIOTECHNOLOGY, INC.

KCTD2 siRNA (h): sc-94099

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. KCTD2 (potassium channel tetramerisation domain containing 2) is a 263 amino acid protein containing one BTB (POZ) domain and is encoded by a gene located on human chromosome 17. Encoding over 1,200 genes, chromosome 17 comprises over 2.5% of the human genome. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome.

REFERENCES

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2. Gilbert, F. 1998. Disease genes and chromosomes: disease maps of the human genome. Chromosome 17. Genet. Test. 2: 357-381.
3. Komarova, E.A. and Gudkov, A.V. 1998. Could p53 be a target for therapeutic suppression? Semin. Cancer Biol. 8: 389-400.
4. Ben-Porath, I. and Weinberg, R.A. 2005. The signals and pathways activating cellular senescence. Int. J. Biochem. Cell Biol. 37: 961-976.
5. Lwa, T.R., Tan, C.H., Lew, Q.J., Chu, K.L., Tan, J., Lee, Y.Y. and Chao, S.H. 2010. Identification of cellular genes critical to recombinant protein production using a Gaussia iuciferase-based siRNA screening system. J. Biotechnol. 146: 160-168.

CHROMOSOMAL LOCATION

Genetic locus: KCTD2 (human) mapping to 17q25.1.

PRODUCT

KCTD2 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 KCTD2 shRNA Plasmid (h): sc-94099-SH and KCTD2 shRNA (h) Lentiviral Particles: sc-94099-V as alternate gene silencing products.

For independent verification of KCTD2 (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-94099A, sc-94099B and sc-94099C.

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 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

KCTD2 siRNA (h) is recommended for the inhibition of KCTD2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KCTD2 gene expression knockdown using RT-PCR Primer: KCTD2 (h)-PR: sc-94099-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.