SANTA CRUZ BIOTECHNOLOGY, INC.

ACTBL1 siRNA (h): sc-105036

BACKGROUND

ACTBL1, also known as A26C3 (ANKRD26-like family C, member 3) or POTE22 (prostate, ovary, testis-expressed protein on chromosome 22), is a 545 amino acid protein that contains seven ANK repeats and four cysteine-rich N-terminal repeats. Expressed in testis, ovary and placenta, as well as in normal and cancerous prostate tissue, ACTBL1 is thought to play an important role in signaling events in the reproductive system. The gene encoding ACTBL1 maps to chromosome 22, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, neurofibromatosis type 2, autism and schizophrenia. Additionally, translocations between chromosomes 9 and 22 may lead to the formation of the Philadelphia chromosome and the subsequent production of the novel fusion protein Bcr-Abl, a potent cell proliferation activator found in several types of leukemias.

REFERENCES

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2. Dunham, I., et al. 1999. The DNA sequence of human chromosome 22. Nature 402: 489-495.
3. Bera, T.K., et al. 2002. POTE, a highly homologous gene family located on numerous chromosomes and expressed in prostate, ovary, testis, placenta, and prostate cancer. Proc. Natl. Acad. Sci. USA 99: 16975-16980.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608913. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Tsilchorozidou, T., et al. 2004. Constitutional rearrangements of chromosome 22 as a cause of neurofibromatosis 2. J. Med. Genet. 41: 529-534.
6. Bera, T.K., et al. 2004. Five POTE paralogs and their splice variants are expressed in human prostate and encode proteins of different lengths. Gene 337: 45-53.
7. Arinami, T. 2006. Analyses of the associations between the genes of 22q11 deletion syndrome and schizophrenia. J. Hum. Genet. 51: 1037-1045.

CHROMOSOMAL LOCATION

Genetic locus: POTEH (human) mapping to 22q11.1.

PRODUCT

ACTBL1 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 ACTBL1 shRNA Plasmid (h): sc-105036-SH and ACTBL1 shRNA (h) Lentiviral Particles: sc-105036-V as alternate gene silencing products.

For independent verification of ACTBL1 (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-105036A, sc-105036B and sc-105036C.

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

ACTBL1 siRNA (h) is recommended for the inhibition of ACTBL1 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 ACTBL1 gene expression knockdown using RT-PCR Primer: ACTBL1 (h)-PR: sc-105036-PR (20 µl, 547 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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