SANTA CRUZ BIOTECHNOLOGY, INC.

# POTE14 siRNA (h): sc-106431

## BACKGROUND

POTE14 (prostate, ovary, testis-expressed protein on chromosome 14), also known as POTEG (POTE ankyrin domain family, member G), ANKRD26-like family C member 2, ACTBL1 or POTE22, is a 508 amino acid protein that belongs to the POTE family. Existing as three alternatively spliced isoforms, POTE14 contains five ANK repeats, three cysteine-rich N-terminal repeats, six central ankyrin repeats and a C-terminal helical region. The gene encoding POTE14 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presinilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder $\alpha$1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

## REFERENCES


1. 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.
2. 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.
3. Avramopoulos, D., et al. 2005. Linkage to chromosome 14q in Alzheimer's disease (AD) patients without psychotic symptoms. Am. J. Med. Genet. B Neuropsychiatr. Genet 132B: 9-13.
4. Hahn, Y., et al. 2006. Duplication and extensive remodeling shaped POTE family genes encoding proteins containing ankyrin repeat and coiled coil domains. Gene 366: 238-245.
5. Chang, K.W., et al. 2006. Identification of a novel actin isoform in hepatocellular carcinoma. Hepatol. Res. 36: 33-39.
6. Larner, A.J., et al. 2009. Genotype-phenotype relationships of presenilin-1 mutations in Alzheimer's disease: an update. J. Alzheimers Dis. 17: 259-265.
7. Topic, A., et al. 2009. $\alpha$-1-antitrypsin phenotypes in adult liver disease patients. Ups. J. Med. Sci. 114: 228-234.
8. Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 608916. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/


## CHROMOSOMAL LOCATION

Genetic locus: POTEG (human) mapping to 14q11.2.

## PRODUCT

POTE14 siRNA (h) is a target-specific 19-25 nt siRNA 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 POTE14 shRNA Plasmid (h): sc-106431-SH and POTE14 shRNA (h) Lentiviral Particles: sc-106431-V as alternate gene silencing 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

POTE14 siRNA (h) is recommended for the inhibition of POTE14 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 POTE14 gene expression knockdown using RT-PCR Primer: POTE14 (h)-PR: sc-106431-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.