SANTA CRUZ BIOTECHNOLOGY, INC.

SERPINE3 siRNA (m): sc-143231

BACKGROUND

SERPINE3 (serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 3) is a 424 amino acid secreted protein that belongs to the serpin family. SERPINE3 is considered a probable serine protease inhibitor. The expression profile of SERPINE3 is more restricted than that of SERPINB8, with highest levels found in neural tissues, such as brain, pituitary and spinal cord. PCSK4, a member of the proprotein convertase family, correlates in expression with SERPINE3, with an overall value of 0.9. It has been suggested that SERPINE3 is the cognate inhibitor of PCSK4 *in vivo*. Existing as two alternatively spliced isoforms, the SERPINE3 gene is conserved in chimpanzee, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 13q14.3. Comprising nearly 4% of human DNA, chromosome 13 contains around 114 million base pairs and 400 genes. As with most chromosomes, polysomy of part or all of chromosome 13 is deleterious to development and decreases the odds of survival. Trisomy 13, also known as Patau syndrome, is quite deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Dunham, A., et al. 2004. The DNA sequence and analysis of human chromosome 13. Nature 428: 522-528.
2. Badola, S., et al. 2006. Correlation of serpin-protease expression by comparative analysis of real-time PCR profiling data. Genomics 88: 173-184.
3. Hsu, H.F. and Hou, J.W. 2007. Variable expressivity in Patau syndrome is not all related to trisomy 13 mosaicism. Am. J. Med. Genet. A 143A: 1739-1748.
4. Hall, H.E., et al. 2007. The origin of trisomy 13. Am. J. Med. Genet. A 143A: 2242-2248.
5. Bugge, M., et al. 2007. Non-disjunction of chromosome 13. Hum. Mol. Genet. 16: 2004-2010.
6. Kumar, A. and Ragg, H. 2008. Ancestry and evolution of a secretory pathway serpin. BMC Evol. Biol. 8: 250.

CHROMOSOMAL LOCATION

Genetic locus: Serpine3 (mouse) mapping to 14 D1.

PRODUCT

SERPINE3 siRNA (m) 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 SERPINE3 shRNA Plasmid (m): sc-143231-SH and SERPINE3 shRNA (m) Lentiviral Particles: sc-143231-V as alternate gene silencing products.

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

SERPINE3 siRNA (m) is recommended for the inhibition of SERPINE3 expression in mouse 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 SERPINE3 gene expression knockdown using RT-PCR Primer: SERPINE3 (m)-PR: sc-143231-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.