SANTA CRUZ BIOTECHNOLOGY, INC.

Polyserase-3 siRNA (h): sc-76199

BACKGROUND

Polyserase-3, also known as POL3S or polyserine protease 3, is a 553 amino acid protein belonging to the peptidase S1 family. Predominantly detected in testis, liver, heart and ovary, as well as in several tumor cell lines, Polyserase-3 contains two serine protease domains embedded in the same polypeptide chain. Considered a novel non-glycosylated secreted polyprotein, Polyserase-3 is similar to Polyserase-2, but lacks additional domains such as the type II transmembrane motif and the low-density lipoprotein receptor module present in the membrane-anchored Polyserase-1. Polyserase-3 may be involved in the degradation of the α-chain of fibrinogen as well as pro-urokinase-type plasminogen activator (pro-uPA).

REFERENCES

1. Del Rosso, M., et al. 2002. Multiple pathways of cell invasion are regulated by multiple families of serine proteases. Clin. Exp. Metastasis 19: 193-207.
2. Cal, S., et al. 2003. Polyserase-I, a human polyprotease with the ability to generate independent serine protease domains from a single translation product. Proc. Natl. Acad. Sci. USA 100: 9185-9190.
3. Cal, S., et al. 2005. Human Polyserase-2, a novel enzyme with three tandem serine protease domains in a single polypeptide chain. J. Biol. Chem. 280: 1953-1961.
4. Cal, S., et al. 2006. Identification and characterization of human Polyserase-3, a novel protein with tandem serine-protease domains in the same polypeptide chain. BMC Biochem. 7: 9.
5. Okumura, Y., et al. 2006. Serase-1B, a new splice variant of Polyserase-1/TMPRSS9, activates urokinase-type plasminogen activator and the proteolytic activation is negatively regulated by glycosaminoglycans. Biochem. J. 400: 551-561.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610561. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Qiu, D., et al. 2007. Roles and regulation of membrane-associated serine proteases. Biochem. Soc. Trans. 35: 583-587.

CHROMOSOMAL LOCATION

Genetic locus: PRSS53 (human) mapping to 16p11.2.

PRODUCT

Polyserase-3 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 Polyserase-3 shRNA Plasmid (h): sc-76199-SH and Polyserase-3 shRNA (h) Lentiviral Particles: sc-76199-V as alternate gene silencing products.

For independent verification of Polyserase-3 (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-76199A, sc-76199B and sc-76199C.

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

Polyserase-3 siRNA (h) is recommended for the inhibition of Polyserase-3 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 Polyserase-3 gene expression knockdown using RT-PCR Primer: Polyserase-3 (h)-PR: sc-76199-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.