SANTA CRUZ BIOTECHNOLOGY, INC.

TMPRSS7 siRNA (h): sc-78020

BACKGROUND

Extracellular proteases mediate the digestion of neighboring extracellular matrix components in initial tumor growth, allow desquamation of tumor cells into the surrounding environment, provide the basis for invasion of basement membranes in targeted metastatic organs and are required for release and activation of many growth and angiogenic factors. TMPRSS7 (transmembrane protease, serine 7), also known as Matriptase-3, is a 843 amino acid single-pass type II membrane protein that is expressed specifically in in brain, ovary, testis, salivary gland, trachea and lung. A member of the peptidase S1 family, TMPRSS7 contains one peptidase S1 domain, two CUB domains and two LDL-receptor class A domains, and is encoded by a gene that maps to human chromosome 3q13.2. TMPRSS7 exists as two alternatively spliced isoforms.

REFERENCES

1. Netzel-Arnett, S., Hooper, J.D., Szabo, R., Madison, E.L., Quigley, J.P., Bugge, T.H. and Antalis, T.M. 2003. Membrane anchored serine proteases: a rapidly expanding group of cell surface proteolytic enzymes with potential roles in cancer. Cancer Metastasis Rev. 22: 237-258.
2. Szabo, R., Netzel-Arnett, S., Hobson, J.P., Antalis, T.M. and Bugge, T.H. 2005. Matriptase-3 is a novel phylogenetically preserved membrane-anchored serine protease with broad serpin reactivity. Biochem J. 390: 231-342.

CHROMOSOMAL LOCATION

Genetic locus: TMPRSS7 (human) mapping to 3q13.2.

PRODUCT

TMPRSS7 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 TMPRSS7 shRNA Plasmid (h): sc-78020-SH and TMPRSS7 shRNA (h) Lentiviral Particles: sc-78020-V as alternate gene silencing products.

For independent verification of TMPRSS7 (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-78020A, sc-78020B and sc-78020C.

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.

PROTOCOLS

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

APPLICATIONS

TMPRSS7 siRNA (h) is recommended for the inhibition of TMPRSS7 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 TMPRSS7 gene expression knockdown using RT-PCR Primer: TMPRSS7 (h)-PR: sc-78020-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.