SANTA CRUZ BIOTECHNOLOGY, INC.

PRSS16 siRNA (h): sc-95229

BACKGROUND

PRSS16, also known as serine protease 16 or TSSP (thymus-specific serine protease), is a 514 amino acid protein involved in the alternative antigen presenting pathway of T-cell positive selection. Localizing to lysosomal or endosomal cytoplasmic vesicles, PRSS16 is abundantly expressed in cortical thymic epithelial cells and is a member of the peptidase S28 family. The gene encoding PRSS16 maps to human chromosome 6, in a large histone gene cluster near the major histocompatibility complex (MHC) class I region. PRSS16 may also be linked to Insulin dependent diabetes mellitus (IDDM) susceptibility and autoimmunity.

REFERENCES

1. Gruen, J.R., et al. 1996. A transcription map of the major histocompatibility complex (MHC) class I region. Genomics 36: 70-85.
2. Bowlus, C.L., et al. 1999. Cloning of a novel MHC-encoded serine peptidase highly expressed by cortical epithelial cells of the thymus. Cell. Immunol. 196: 80-86.
3. Lie, B.A., et al. 2002. Polymorphisms in the gene encoding thymus-specific serine protease in the extended HLA complex: a potential candidate gene for autoimmune and HLA-associated diseases. Genes Immun. 3: 306-312.
4. Cheunsuk, S., et al. 2002. Expression, genomic structure and mapping of the thymus specific protease prss16: a candidate gene for Insulin dependent diabetes mellitus susceptibility. J. Autoimmun. 18: 311-316.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607169. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Luther, C., et al. 2005. Alternatively spliced transcripts of the thymus-specific protease PRSS16 are differentially expressed in human thymus. Genes Immun. 6: 1-7.
7. Lie, B.A., et al. 2007. Association analysis in type 1 diabetes of the PRSS16 gene encoding a thymus-specific serine protease. Hum. Immunol. 68: 592-598.

CHROMOSOMAL LOCATION

Genetic locus: PRSS16 (human) mapping to 6p22.1.

PRODUCT

PRSS16 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 PRSS16 shRNA Plasmid (h): sc-95229-SH and PRSS16 shRNA (h) Lentiviral Particles: sc-95229-V as alternate gene silencing products.

For independent verification of PRSS16 (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-95229A, sc-95229B and sc-95229C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

PRSS16 siRNA (h) is recommended for the inhibition of PRSS16 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.

GENE EXPRESSION MONITORING

PRSS16 (D-7): sc-515700 is recommended as a control antibody for monitoring of PRSS16 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PRSS16 gene expression knockdown using RT-PCR Primer: PRSS16 (h)-PR: sc-95229-PR (20 µl). 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.