

PRSS16 (D-7): sc-515700

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.
8. Viken, M.K., et al. 2009. Reproducible association with type 1 diabetes in the extended class I region of the major histocompatibility complex. *Genes Immun.* 10: 323-333.

CHROMOSOMAL LOCATION

Genetic locus: PRSS16 (human) mapping to 6p22.1; Prss16 (mouse) mapping to 13 A3.1.

SOURCE

PRSS16 (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 365-382 within an internal region of PRSS16 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PRSS16 (D-7) is recommended for detection of PRSS16 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PRSS16 siRNA (h): sc-95229, PRSS16 siRNA (m): sc-152523, PRSS16 shRNA Plasmid (h): sc-95229-SH, PRSS16 shRNA Plasmid (m): sc-152523-SH, PRSS16 shRNA (h) Lentiviral Particles: sc-95229-V and PRSS16 shRNA (m) Lentiviral Particles: sc-152523-V.

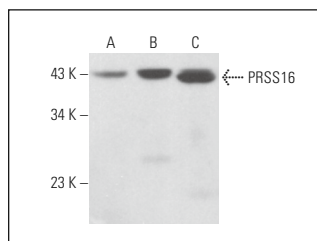
Molecular Weight of PRSS16: 55 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, NIH/3T3 whole cell lysate: sc-2210 or human thymus whole cell lysate.

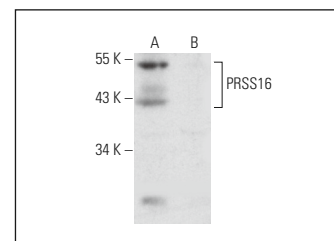
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



PRSS16 (D-7): sc-515700. Western blot analysis of PRSS16 expression in Hep G2 (A) and NIH/3T3 (B) whole cell lysates and human fetal thymus tissue extract (C).



PRSS16 (D-7): sc-515700. Western blot analysis of PRSS16 expression in human thymus (A) and human testis (B) whole cell lysates. Note specificity in thymus.

SELECT PRODUCT CITATIONS

1. Mae, S.I., et al. 2020. Expansion of human iPSC-derived ureteric bud organoids with repeated branching potential. *Cell Rep.* 32: 107963.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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