

TMPRSS5 (C-12): sc-169644

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. TMPRSS5 (transmembrane protease, Serine 5), also known as spinesin, is a 457 amino acid single-pass type II membrane protein that is expressed specifically in brain and is thought to play a role in hearing. A member of the peptidase S1 family, TMPRSS5 contains one peptidase S1 domain and an SRCR domain, and is encoded by a gene that maps to human chromosome 11q23.2. Defects in the gene encoding TMPRSS5 are associated with deafness.

REFERENCES

- Mohan, S., Thompson, G.R., Amaar, Y.G., Hathaway, G., Tschesche, H. and Baylink, D.J. 2002. ADAM-9 is an Insulin-like growth factor binding protein-5 protease produced and secreted by human osteoblasts. *Biochemistry* 41: 15394-15403.
- Yamaguchi, N., Okui, A., Yamada, T., Nakazato, H. and Mitsui, S. 2002. Spinesin/TMPRSS5, a novel transmembrane serine protease, cloned from human spinal cord. *J. Biol. Chem.* 277: 6806-6812.
- Guipponi, M., Toh, M.Y., Tan, J., Park, D., Hanson, K., Ballana, E., Kwong, D., Cannon, P.Z., Wu, Q., Gout, A., Delorenzi, M., Speed, T.P., Smith, R.J., Dahl, H.H., Petersen, M., Teasdale, R.D., Estivill, X., Park, W.J. and Scott, H.S. 2008. An integrated genetic and functional analysis of the role of type II transmembrane serine proteases (TMPRSSs) in hearing loss. *Hum. Mutat.* 29: 130-141.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 606751. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Bugge, T.H., Antalis, T.M. and Wu, Q. 2009. Type II transmembrane Serine proteases. *J. Biol. Chem.* 284: 23177-23181.
- Ha, Y. 2009. Structure and mechanism of intramembrane protease. *Semin. Cell Dev. Biol.* 20: 240-250.

CHROMOSOMAL LOCATION

Genetic locus: TMPRSS5 (human) mapping to 11q23.2.

SOURCE

TMPRSS5 (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal extracellular domain of TMPRSS5 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-169644 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TMPRSS5 (C-12) is recommended for detection of TMPRSS5 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other TMPRSS family members.

TMPRSS5 (C-12) is also recommended for detection of TMPRSS5 in additional species, including canine and porcine.

Suitable for use as control antibody for TMPRSS5 siRNA (h): sc-96286, TMPRSS5 shRNA Plasmid (h): sc-96286-SH and TMPRSS5 shRNA (h) Lentiviral Particles: sc-96286-V.

Molecular Weight of TMPRSS5: 50 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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