

# TMPRSS3 (N-16): sc-19690

## 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. The TMPRSS3 (also known as ECHOS1) gene, which encodes a transmembrane serine protease, has been found to be responsible for two non-syndromic recessive deafness loci located on human chromosome 21q22.3, DFNB8 and DFNB10. TMPRSS3, a 437 amino acid membrane bound serine protease and a member of the S1 peptidase family. TMPRSS3 contains an amino-terminal signal-anchor sequence and a glycosylated extracellular region containing the serine protease domain. Two novel missense mutations of TMPRSS3, W251C and P404L, alter the highly conserved amino acids of the serine protease domain. TMPRSS3 is expressed in many tissues, including fetal cochlea, a subset of pancreatic cancer and various other cancer tissues. TMPRSS3 is also over-expressed in cancer, suggesting that it may be important for processes in metastasis formation and tumor invasion.

## REFERENCES

1. Tanimoto, H., et al. 1997. Hepsin, a cell surface serine protease identified in hepatoma cells, is overexpressed in ovarian cancer. *Cancer Res.* 57: 2884-2887.
2. Wallrapp, C., et al. 2000. A novel transmembrane serine protease (TMPRSS3) overexpressed in pancreatic cancer. *Cancer Res.* 60: 2602-2606.
3. Magee, J.A., et al. 2001. Expression profiling reveals hepsin overexpression in prostate cancer. *Cancer Res.* 61: 5692-5696.
4. Masmoudi, S., et al. 2001. Novel missense mutations of TMPRSS3 in two consanguineous Tunisian families with non-syndromic autosomal recessive deafness. *Hum. Mutat.* 18: 101-108.
5. Scott, H.S., et al. 2001. Insertion of  $\beta$ -satellite repeats a transmembrane protease causing both congenital and childhood onset autosomal recessive deafness. *Nat. Genet.* 27: 59-63.

## CHROMOSOMAL LOCATION

Genetic locus: TMPRSS3 (human) mapping to 21q22.3; Tmprss3 (mouse) mapping to 17 A3.3.

## SOURCE

TMPRSS3 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TMPRSS3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19690 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TMPRSS3 (N-16) is recommended for detection of TMPRSS3 of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

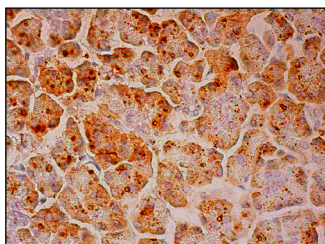
TMPRSS3 (N-16) is also recommended for detection of TMPRSS3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TMPRSS3 siRNA (h): sc-41659, TMPRSS3 siRNA (m): sc-41660, TMPRSS3 shRNA Plasmid (h): sc-41659-SH, TMPRSS3 shRNA Plasmid (m): sc-41660-SH, TMPRSS3 shRNA (h) Lentiviral Particles: sc-41659-V and TMPRSS3 shRNA (m) Lentiviral Particles: sc-41660-V.

## 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz<sup>™</sup>: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



TMPRSS3 (N-16): sc-19690. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.