SANTA CRUZ BIOTECHNOLOGY, INC.

TMPRSS4 (D-1): sc-390875

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. TMPRSS4 (transmembrane protease, serine 4), also known as MT-SP2 (membrane-type serine protease 2) and initially referred to as TMPRSS3, is a single-pass type II membrane protein with one SRCR domain, one LDL-receptor class A domain and one peptidase S1 domain. Localizing to the cell surface, TMPRSS4 is a member of the peptidase S1 family and is weakly expressed in normal tissues but is highly expressed in gastric, pancreatic, ampullary and colorectal cancer. TMPRSS4 plays a role 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. Magee, J.A., et al. 2001. Expression profiling reveals hepsin overexpression in prostate cancer. Cancer Res. 61: 5692-2696.
3. Kebebew, E., et al. 2005. ECM1 and TMPRSS4 are diagnostic markers of malignant thyroid neoplasms and improve the accuracy of fine needle aspiration biopsy. Ann. Surg. 242: 353-361.
4. Jarzab, B., et al. 2005. Gene expression profile of papillary thyroid cancer: sources of variability and diagnostic implications. Cancer Res. 65: 1587-1597.
5. Yamada, H., et al. 2005. Effect of splice-site polymorphisms of the TMPRSS4, NPHP4 and ORCTL4 genes on their mRNA expression. J. Genet. 84: 131-136.
6. Kebebew, E., et al. 2006. Diagnostic and extent of disease multigene assay for malignant thyroid neoplasms. Cancer 106: 2592-2597.
7. Dawelbait, G., et al. 2007. Structural templates predict novel protein interactions and targets from pancreas tumour gene expression data. Bioinformatics 23: i115-i124.
8. Jung, H., et al. 2008. TMPRSS4 promotes invasion, migration and metastasis of human tumor cells by facilitating an epithelial-mesenchymal transition. Oncogene 27: 2635-2647.

CHROMOSOMAL LOCATION

Genetic locus: TMPRSS4 (human) mapping to 11q23.3.

SOURCE

TMPRSS4 (D-1) is a mouse monoclonal antibody raised against amino acids 295-370 mapping within an internal region of TMPRSS4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TMPRSS4 (D-1) is recommended for detection of TMPRSS4 of 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 TMPRSS4 siRNA (h): sc-63137, TMPRSS4 shRNA Plasmid (h): sc-63137-SH and TMPRSS4 shRNA (h) Lentiviral Particles: sc-63137-V.

Molecular Weight of TMPRSS4: 48 kDa.

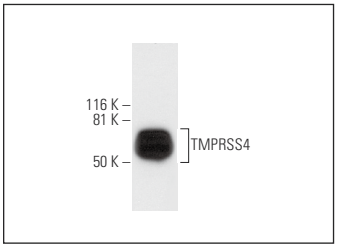
Molecular Weight of glycosylated TMPRSS4: 55 kDa.

Positive Controls: human pancreas extract: sc-363770.

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 A/G PLUS-Agarose: sc-2003 (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



TMPRSS4 (D-1): sc-390875. Western blot analysis of TMPRSS4 expression in human pancreas tissue extract.

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 for detailed protocols and support products.