

TMPRSS4 (A-3): sc-376415

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.

CHROMOSOMAL LOCATION

Genetic locus: TMPRSS4 (human) mapping to 11q23.3; Tmprss4 (mouse) mapping to 9 A5.2.

SOURCE

TMPRSS4 (A-3) is a mouse monoclonal antibody raised against amino acids 1-216 mapping at the N-terminus of TMPRSS4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TMPRSS4 (A-3) is available conjugated to agarose (sc-376415 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376415 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376415 PE), fluorescein (sc-376415 FITC), Alexa Fluor® 488 (sc-376415 AF488), Alexa Fluor® 546 (sc-376415 AF546), Alexa Fluor® 594 (sc-376415 AF594) or Alexa Fluor® 647 (sc-376415 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376415 AF680) or Alexa Fluor® 790 (sc-376415 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TMPRSS4 (A-3) is recommended for detection of TMPRSS4 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), 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).

Suitable for use as control antibody for TMPRSS4 siRNA (h): sc-63137, TMPRSS4 siRNA (m): sc-63138, TMPRSS4 shRNA Plasmid (h): sc-63137-SH, TMPRSS4 shRNA Plasmid (m): sc-63138-SH, TMPRSS4 shRNA (h) Lentiviral Particles: sc-63137-V and TMPRSS4 shRNA (m) Lentiviral Particles: sc-63138-V.

Molecular Weight of TMPRSS4: 48 kDa.

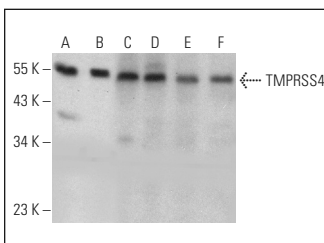
Molecular Weight of glycosylated TMPRSS4: 55 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285, Jurkat whole cell lysate: sc-2204 or C2C12 whole cell lysate: sc-364188.

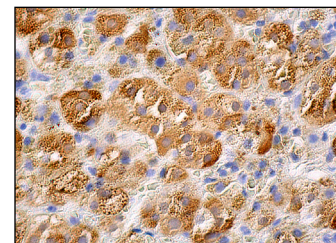
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TMPRSS4 (A-3): sc-376415. Western blot analysis of TMPRSS4 expression in MIA PaCa-2 (A), Jurkat (B), C2C12 (C), P19 (D), RIN-m5F (E) and L8 (F) whole cell lysates.



TMPRSS4 (A-3): sc-376415. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Valero-Jiménez, A., et al. 2018. Transmembrane protease, serine 4 (TMPRSS4) is upregulated in IPF lungs and increases the fibrotic response in bleomycin-induced lung injury. *PLoS ONE* 13: e0192963.
- Zang, R., et al. 2020. TMPRSS2 and TMPRSS4 promote SARS-CoV-2 infection of human small intestinal enterocytes. *Sci. Immunol.* 5: eabc3582.
- Niemeyer, B.F., et al. 2021. Broad antiviral and anti-inflammatory efficacy of nafamostat against SARS-CoV-2 and seasonal coronaviruses in primary human bronchiolar epithelia. *Nano Sel.* 3: 437-449.
- Tey, S.K., et al. 2022. ACE2-enriched extracellular vesicles enhance infectivity of live SARS-CoV-2 virus. *J. Extracell. Vesicles* 11: e12231.
- Kakizoe, Y., et al. 2022. Camostat mesilate, a serine protease inhibitor, exerts aquaretic effects and decreases urinary exosomal AQP2 levels. *J. Pharmacol. Sci.* 150: 204-210.

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.

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