SANTA CRUZ BIOTECHNOLOGY, INC.

Matriptase (D-7): sc-365482

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Matriptase (also known as MT-SP1, ST14, prostamin and epithin) is a tumor-associated type II transmembrane serine protease that is highly expressed in many human cancer-derived cell lines and is implicated in extracellular matrix remodeling, tumor growth and metastasis. Matriptase performs pleiotropic functions in the development of the epidermis, hair follicles and cellular immune system. Sphingosine 1 phosphate (S1P, SPP), present in serum-derived lipoproteins, activates Matriptase while Matriptase activates both urokinase-type plasminogen activator and hepatocyte growth factor (HGF). Hepatocyte growth factor activator inhibitor type 1 (HAI-1) is a Kunitz-type serine protease inhibitor identified as a strong inhibitor of Matriptase and HGF. Advanced-stage ovarian tumors that express Matriptase are more likely to do so in the absence of its inhibitor, HAI-1, indicating that an imbalance in the Matriptase: HAI-1 ratio could be important in the development of advanced disease.

CHROMOSOMAL LOCATION

Genetic locus: ST14 (human) mapping to 11q24.3.

SOURCE

Matriptase (D-7) is a mouse monoclonal antibody raised against amino acids 81-350 mapping within an N-terminal extracellular domain of Matriptase 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.

Matriptase (D-7) is available conjugated to agarose (sc-365482 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365482 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365482 PE), fluorescein (sc-365482 FITC), Alexa Fluor® 488 (sc-365482 AF488), Alexa Fluor® 546 (sc-365482 AF546), Alexa Fluor® 594 (sc-365482 AF594) or Alexa Fluor® 647 (sc-365482 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365482 AF680) or Alexa Fluor® 790 (sc-365482 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Matriptase (D-7) is recommended for detection of Matriptase 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), immunohistochemistry (including paraffin-embedded sections) (start-ing 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 Matriptase siRNA (h): sc-43911, Matriptase shRNA Plasmid (h): sc-43911-SH and Matriptase shRNA (h) Lentiviral Particles: sc-43911-V.

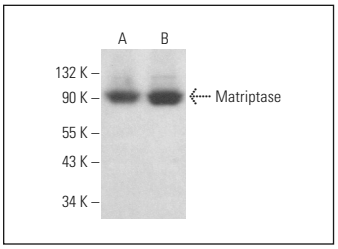
Molecular Weight of Matriptase: 70 kDa.

Positive Controls: Raji whole cell lysate: sc-364236 or BJAB whole cell lysate: sc-2207.

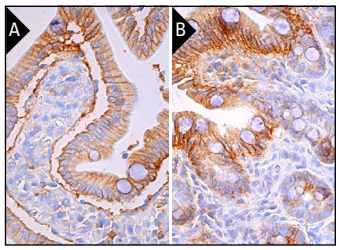
RECOMMENDED SUPPORT REAGENTS

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



Matriptase (D-7): sc-365482. Western blot analysis of Matriptase expression in Raji (**A**) and BJAB (**B**) whole cell lysates.



Matriptase (D-7): sc-365482. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine (**A**) and human colon (**B**) tissue showing membrane and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Ye, F., et al. 2019. 3-Cl-AHPC inhibits pro-HGF maturation by inducing Matriptase/HAI-1 complex formation. J. Cell. Mol. Med. 23: 155-166.
2. Li, C., et al. 2019. MSP-RON signaling is activated in the transition from pancreatic intraepithelial neoplasia (PanIN) to pancreatic ductal adenocarcinoma (PDAC). Front. Physiol. 10: 147.
3. Steiro, I., et al. 2022. The serine protease matriptase inhibits migration and proliferation in multiple myeloma cells. Oncotarget 13: 1175-1186.
4. Chen, M., et al. 2023. Comparative site-specific N-glycoproteome analysis reveals aberrant N-glycosylation and gives insights into mannose-6-phosphate pathway in cancer. Commun. Biol. 6: 48.

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.