SANTA CRUZ BIOTECHNOLOGY, INC.

MT-MMP-5 (V-14): sc-19061

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The matrix metalloproteinases (MMPs) are a family of peptidase enzymes responsible for the degradation of extracellular matrix components, including collagen, gelatin, Fibronectin, Laminin and proteoglycan. MMP catalysis requires both calcium and zinc. MT-MMP-4 (also known as MMP-17 or MT4-MMP) is a glycosylphosphatidylinositol (GPI)-anchored proteinase. The zinc-dependent MMP has a unique specificity among synthetic substrates and the capability to degrade gelatin and activate progelatinase A. MT-MMP-4 is mainly expressed in the brain, leukocytes, colon, ovary and testis. In addition, MT-MMP-4 is expressed in all breast carcinomas. The human MT-MMP-5 (also known as MMP-24 or MT5-MMP) gene maps to chromosome 20q11.22, a region frequently amplified in tumors. MT-MMP-5 is predominantly expressed in brain, kidney, pancreas and lung. It is also expressed at high levels in brain tumors, compared to normal brain tissue. MT-MMP-6 (also known as MMP-25, MT6-MMP or leukolysin) is the second GPI-anchored proteinase in the MMP family. A C-terminal-truncated MMP-6 protein is expressed as a strong gelatinolytic species that is derived from a cell-associated proenzyme. MT-MMP-6 is expressed in leukocytes, lung and spleen.

REFERENCES

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2. Reinemer, P., Grams, F., Huber, R., Kleine, T., Schnierer, S., Piper, M., Tschesche, H. and Bode, W. 1994. Structural implications for the role of the N-terminus in the "superactivation" of collagenases. A crystallographic study. FEBS Lett. 338: 227-233.
3. Puente, X.S., Pendas, A.M., Llano, E., Velasco, G. and Lopez-Otin, C. 1996. Molecular cloning of a novel membrane-type matrix metalloproteinase from a human breast carcinoma. Cancer Res. 56: 944-949.
4. Llano, E., Pendas, A.M., Freije, J.P., Nakano, A., Knauper, V., Murphy, G. and Lopez-Otin, C. 1999. Identification and characterization of human MT5-MMP, a new membrane-bound activator of progelatinase a overexpressed in brain tumors. Cancer Res. 59: 2570-2576.
5. Wang, Y., Johnson, A.R., Ye, Q.Z. and Dyer, R.D. 1999. Catalytic activities and substrate specificity of the human membrane type 4 matrix metalloproteinase catalytic domain. J. Biol. Chem. 274: 33043-33049.

CHROMOSOMAL LOCATION

Genetic locus: MMP24 (human) mapping to 20q11.22; Mmp24 (mouse) mapping to 2 H1.

SOURCE

MT-MMP-5 (V-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MT-MMP-5 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-19061 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MT-MMP-5 (V-14) is recommended for detection of MT-MMP-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

MT-MMP-5 (V-14) is also recommended for detection of MT-MMP-5 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for MT-MMP-5 siRNA (h): sc-41571, MT-MMP-5 siRNA (m): sc-41572, MT-MMP-5 shRNA Plasmid (h): sc-41571-SH, MT-MMP-5 shRNA Plasmid (m): sc-41572-SH, MT-MMP-5 shRNA (h) Lenti-viral Particles: sc-41571-V and MT-MMP-5 shRNA (m) Lentiviral Particles: sc-41572-V.

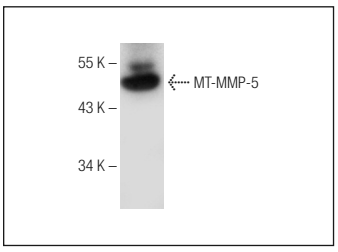
Molecular Weight of MT-MMP-5: 63 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



MT-MMP-5 (V-14): sc-19061. Western blot analysis of MT-MMP-5 expression in CCRF-CEM whole cell lysate.

RESEARCH USE

For research use only, not for use in diagnostic procedures.