

MT-MMP-4 (C-18): sc-8847

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, 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 20q11.2, a region frequently amplified in tumors. MMP-5 is predominantly expressed in brain, kidney, pancreas and lung. MT-MMP 5 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 at 28 kDa that is derived from a cell-associated 34 kDa proenzyme. MT-MMP 6 is expressed in leukocytes, lung and spleen.

REFERENCES

1. Reinemer, P., et al. 1994. Structural implications for the role of the N terminus in the 'superactivation' of collagenases. A crystallographic study. *FEBS Letts.* 338: 227-233.
2. Puente, X.S., et al. 1996. Molecular cloning of a novel membrane-type matrix metalloproteinase from a human breast carcinoma. *Cancer Res.* 56: 944-949.
3. Wang, Y., et al. 1999. Catalytic activities and substrate specificity of the human membrane type 4 matrix metalloproteinase catalytic domain. *J. Biol. Chem.* 274: 33043-33049.
4. Itoh, Y., et al. 1999. Membrane type 4 matrix metalloproteinase (MT4-MMP, MMP-17) is a glycosylphosphatidylinositol-anchored proteinase. *J. Biol. Chem.* 274: 34260-34266.
5. Llano, E., et al. 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.

SOURCE

MT-MMP-4 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MT-MMP-4 of human origin.

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-8847 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MT-MMP-4 (C-18) is recommended for detection of MT-MMP-4 of 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).

Suitable for use as control antibody for MT-MMP-4 siRNA (h): sc-35979, MT-MMP-4 shRNA Plasmid (h): sc-35979-SH and MT-MMP-4 shRNA (h) Lentiviral Particles: sc-35979-V.

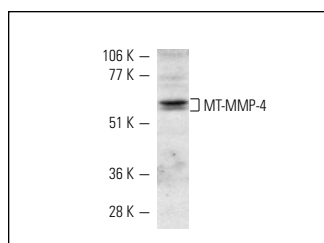
Molecular Weight of MT-MMP-4: 62 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, MCF7 whole cell lysate: sc-2206 or LNCaP cell lysate: sc-2231.

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-4 (C-18): sc-8847. Western blot analysis of MT-MMP-4 expression in NAMALWA whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.