SANTA CRUZ BIOTECHNOLOGY, INC.

MT-MMP-4 (M-15): sc-20910

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, 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. Birkedal-Hansen, H., et al. 1993. Matrix metalloproteinases: a review. Crit. Rev. Oral Biol. Med. 4: 197-250.
2. 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.
3. 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.
4. 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.
5. 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.

SOURCE

MT-MMP-4 (M-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MT-MMP-4 of mouse 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-20910 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 (M-15) is recommended for detection of MT-MMP-4 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-35980.

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

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) 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.

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.