SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-21 (H-225): sc-50495

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. Transcription of MMP genes is differentially activated by phorbol ester, lipopolysaccharide (LPS) or staphylococcal enterotoxin B (SEB). MMP catalysis requires both calcium and zinc. MMP-21 is 569 amino acid residues in length and consists of a prodomain, catalytic domain and haemopexin-like domain. It is the human ortholog for XMMP in *X. laevis* and CyMMP in *C. pyrrhogaster*. MMP-21 is expressed in various fetal and adult tissues. It is a possible target gene of the Wnt pathway, and the expression of this protein is controlled by Pax and Notch transcription factors. MMP-21 may play an important role in embryogenesis, tissue development (particularly in the brain), tumor progression and possibly apoptosis.

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 Lett. 338: 227-233.
3. Machein, U., et al. 1997. Expression of several matrix metalloproteinase genes in human monocytic cells. Adv. Exp. Med. Biol. 421: 247-251.
4. Ahokas, K., et al. 2002. Matrix metalloproteinase-21, the human orthologue for XMMP, is expressed during fetal development and in cancer. Gene 301: 31-41.
5. Marchenko, G.N., et al. 2003. The structure and regulation of the human and mouse matrix metalloproteinase-21 gene and protein. Biochem. J. 372: 503-515.
6. Shagisultanova, E.I., et al. 2004. The matrix metalloproteinase-21 gene 572C/T polymorphism and the risk of breast cancer. Anticancer Res. 24: 199-201.

CHROMOSOMAL LOCATION

Genetic locus: MMP21 (human) mapping to 10q26.13; Mmp21 (mouse) mapping to 7 F3.

SOURCE

MMP-21 (H-225) is a rabbit polyclonal antibody raised against amino acids 301-525 mapping near the C-terminus of MMP-21 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.

STORAGE

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

APPLICATIONS

MMP-21 (H-225) is recommended for detection of MMP-21 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).

MMP-21 (H-225) is also recommended for detection of MMP-21 in additional species, including equine and canine.

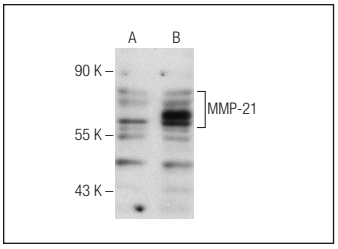
Suitable for use as control antibody for MMP-21 siRNA (h): sc-62627, MMP-21 siRNA (m): sc-62628, MMP-21 shRNA Plasmid (h): sc-62627-SH, MMP-21 shRNA Plasmid (m): sc-62628-SH, MMP-21 shRNA (h) Lentiviral Particles: sc-62627-V and MMP-21 shRNA (m) Lentiviral Particles: sc-62628-V.

Positive Controls: MMP-21 (h2): 293T Lysate: sc-372461.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MMP-21 (H-225): sc-50495. Western blot analysis of MMP-21 expression in non-transfected: sc-117752 (**A**) and human MMP-21 transfected: sc-372461 (**B**) 293T whole cell lysates.

RESEARCH USE

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