SANTA CRUZ BIOTECHNOLOGY, INC.

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

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.
7. Kuivanen, T., et al. 2005. MMP-21 is upregulated at early stages of melanoma progression but disappears with more aggressive phenotype. Virchows Arch. 447: 954-960.
8. Ahokas, K., et al. 2006. Matrix metalloproteinases-21 and -26 are differentially expressed in esophageal squamous cell cancer. Tumour Biol. 27: 133-141.
9. Skoog, T., et al. 2006. MMP-21 is expressed by macrophages and fibroblasts *in vivo* and in culture. Exp. Dermatol. 15: 775-783.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: MMP21 (human) mapping to 10q26.13.

PRODUCT

MMP-21 (h2): 293T Lysate represents a lysate of human MMP-21 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MMP-21 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive MMP-21 antibodies. Recommended use: 10-20 µl per lane.

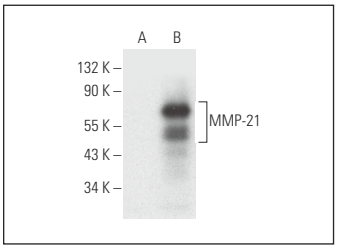
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MMP-21 (C-7): sc-398935 is recommended as a positive control antibody for Western Blot analysis of enhanced human MMP-21 expression in MMP-21 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



MMP-21 (C-7): sc-398935. 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.