SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-13 (D-17): sc-12363

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The matrix metalloproteinases (MMP) 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-13 (also designated collagenase-3) is produced by breast carcinomas and degrades collagen types I, II and III. MMP-13 has wide substrate specificity, and its physiologic expression is limited to situations in which rapid and effective remodeling of collagenous ECM takes place, such as fetal bone development and adult bone remodeling.

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. Freije, J.M., et al. 1994. Molecular cloning and expression of collagenase-3, a novel human matrix metalloproteinase produced by breast carcinomas. J. Biol. Chem. 269: 16766-16773.

CHROMOSOMAL LOCATION

Genetic locus: MMP13 (human) mapping to 11q22.2; Mmp13 (mouse) mapping to 9 A1.

SOURCE

MMP-13 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MMP-13 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-12363 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MMP-13 (D-17) is recommended for detection of MMP-13 propeptide of human and, to a lesser extent, mouse and rat 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 MMP-13 siRNA (h): sc-41559, MMP-13 siRNA (m): sc-41560, MMP-13 shRNA Plasmid (h): sc-41559-SH, MP-13 shRNA Plasmid (m): sc-41560-SH, MMP-13 shRNA (h) Lentiviral Particles: sc-41559-V and MMP-13 shRNA (m) Lentiviral Particles: sc-41560-V.

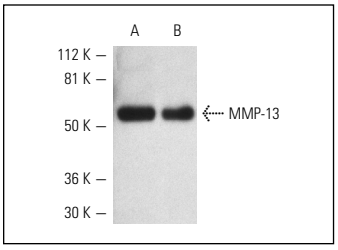
Molecular Weight of MMP-13: 48 kDa.

Positive Controls: SCC-4 whole cell lysate: sc-364363.

STORAGE

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

DATA



MMP-13 (D-17): sc-12363. Western blot analysis of human recombinant MMP-13.

SELECT PRODUCT CITATIONS

1. Yu, C.Y., et al. 2002. Stat3 activation is required for interleukin-6 induced transformation in tumor-promotion sensitive mouse skin epithelial cells. Oncogene 21: 3949-3960.
2. Xu, Q., et al. 2008. Progesterone receptor modulator CDB-2914 induces extracellular matrix metalloproteinase inducer in cultured human uterine leiomyoma cells. Mol. Hum. Reprod. 14: 181-191.
3. Mu, Y., et al. 2009. Action mechanism of Yi Guan Jian Decoction on CCl4 induced cirrhosis in rats. J. Ethnopharmacol. 121: 35-42.
4. Müssig, K., et al. 2009. Association of type 2 diabetes candidate polymorphisms in KCNQ1 with incretin and Insulin secretion. Diabetes 58: 1715-1720.
5. Henson, B.J., et al. 2009. Decreased expression of miR-125b and miR-100 in oral cancer cells contributes to malignancy. Genes Chromosomes Cancer 48: 569-582.
6. Gurkan, I., et al. 2010. Modification of osteoarthritis in the guinea pig with pulsed low-intensity ultrasound treatment. Osteoarthr. Cartil. 18: 724-733.
7. Ryu, B., et al. 2010. Purification of a peptide from seahorse, that inhibits TPA-induced MMP, iNOS and COX-2 expression through MAPK and NFκB activation, and induces human osteoblastic and chondrocytic differentiation. Chem. Biol. Interact. 184: 413-422.

RESEARCH USE

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