SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-2 (H-76): sc-10736

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-2 (also designated type IV collagenase) cleaves collagen types IV, V, VII and X and gelatin type I. Activation of MMP-2 secretion requires the Ras signaling pathway.

REFERENCES

1. Collier, I.E., et al. 1988. H-Ras oncogene-transformed human bronchial epithelial cells (TBE-1) secrete a single metalloprotease capable of degrading basement membrane collagen. J. Biol. Chem. 263: 6579-6587.
2. Huhtala, P., et al. 1990. Structure of the human type IV collagenase gene. J. Biol. Chem. 265: 11077-11082.

CHROMOSOMAL LOCATION

Genetic locus: MMP2 (human) mapping to 16q12.2; Mmp2 (mouse) mapping to 8 C5.

SOURCE

MMP-2 (H-76) is a rabbit polyclonal antibody raised against amino acids 1-76 of MMP-2 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.

APPLICATIONS

MMP-2 (H-76) is recommended for detection of MMP-2 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).

Suitable for use as control antibody for MMP-2 siRNA (h): sc-29398, MMP-2 siRNA (m): sc-37264, MMP-2 siRNA (r): sc-108049MMP-2 shRNA Plasmid (h): sc-29398-SH, MMP-2 shRNA Plasmid (m): sc-37264-SH, MMP-2 shRNA Plasmid (r): sc-108049-SH, MMP-2 shRNA (h) Lentiviral Particles: sc-29398-V, MMP-2 shRNA (m) Lentiviral Particles: sc-37264-V and MMP-2 shRNA (r) Lentiviral Particles: sc-108049-V.

Molecular Weight of cleaved MMP-2: 63 kDa.

Molecular Weight of pro-MMP-2: 72 kDa.

Positive Controls: ECV304 cell lysate: sc-2269 or A-375 cell lysate: sc-3811.

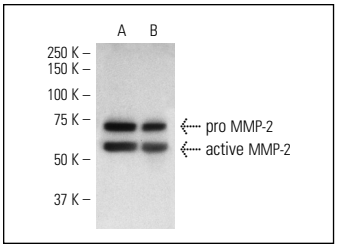
STORAGE

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

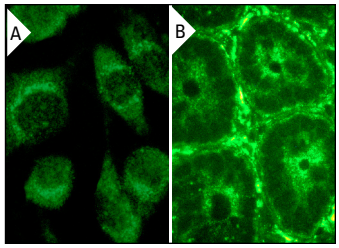
RESEARCH USE

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

DATA



MMP-2 (H-76): sc-10736. Western blot analysis of MMP-2 expression in ECV304 (**A**) and A-375 (**B**) whole cell lysates.



MMP-2 (H-76): sc-10736. Immunofluorescence staining of methanol-fixed A-375 cells showing cytoplasmic localization (**A**). Immunofluorescence staining of normal mouse intestine frozen section showing extracellular staining (**B**).

SELECT PRODUCT CITATIONS

1. Lugea, A., et al. 2003. Nonoxidative ethanol metabolites alter extracellular matrix protein content in rat pancreas. Gastroenterology 125: 1845-1859.
2. Su, J.M., et al. 2003. Active immunogene therapy of cancer with vaccine on the basis of chicken homologous matrix metalloproteinase-2. Cancer Res. 63: 600-607.
3. Espinosa-Neira, R., et al. 2011. Linoleic acid induces an EMT-like process in mammary epithelial cells MCF10A. Int. J. Biochem. Cell Biol. 43: 1782-1791.
4. Phillips, L.M., et al. 2011. The renin inhibitor aliskiren attenuates high-glucose induced extracellular matrix synthesis and prevents apoptosis in cultured podocytes. Nephron Exp. Nephrol. 118: e49-e59.
5. Wang, X.D., et al. 2011. N1-acetyl substituted pyrrolidine derivative CIP-A5: A novel compound that could ameliorate liver cirrhosis through modulation of hepatic stellate cell activity. Toxicol. In Vitro 25: 897-904.
6. Chryssanthi, D.G., et al. 2011. Crocetin inhibits invasiveness of MDA-MB-231 breast cancer cells via downregulation of matrix metalloproteinases. Planta Med. 77: 146-151.
7. Blaise, R., et al. 2012. Wild-type amyloid β1-40 peptide induces vascular smooth muscle cell death independently from matrix metalloprotease activity. Aging Cell 11: 384-393.
8. Jonckheere, N., et al. 2012. The mucin MUC4 and its membrane partner ErbB2 regulate biological properties of human CAPAN-2 pancreatic cancer cells via different signalling pathways. PLoS ONE 7: e32232.
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10. Du, H., et al. 2012. The interaction of amyloid β and the receptor for advanced glycation endproducts induces matrix metalloproteinase-2 expression in brain endothelial cells. Cell. Mol. Neurobiol. 32: 141-147.