

MMP-3/10 (F-10): sc-374029

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-3, MMP-10 and MMP-11 (also designated stromelysin-1, -2 and -3 respectively) activate procollagenase. MMP-3 activation of procollagenase can occur via two pathways. Direct activation by MMP-3 is slow and activation by MMP-3 in conjunction with tissue or plasma proteinases is rapid. MMP-10 is expressed in small intestine, and at lower levels in lung and heart. MMP-11 is specifically expressed in stromal cells of breast carcinomas and contributes to epithelial cell malignancies.

REFERENCES

1. Saus, J., et al. 1988. The complete primary structure of human matrix metalloproteinase-3. Identity with stromelysin. *J. Biol. Chem.* 263: 6742-6745.
2. Suzuki, K., et al. 1990. Mechanisms of activation of tissue procollagenase by matrix metalloproteinase 3 (stromelysin). *Biochemistry* 29: 10261-10270.
3. Basset, P., et al. 1990. A novel metalloproteinase gene specifically expressed in stromal cells of breast carcinomas. *Nature* 348: 699-704.
4. Birkedal-Hansen, H., et al. 1993. Matrix metalloproteinases: a review. *Crit. Rev. Oral Biol. Med.* 4: 197-250.

CHROMOSOMAL LOCATION

Genetic locus: MMP3/MMP10 (human) mapping to 11q22.2;
Mmp3/Mmp10 (mouse) mapping to 9 A1.

SOURCE

MMP-3/10 (F-10) is a mouse monoclonal antibody raised against amino acids 178-477 mapping at the C-terminus of MMP-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MMP-3/10 (F-10) is available conjugated to agarose (sc-374029 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374029 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374029 PE), fluorescein (sc-374029 FITC), Alexa Fluor® 488 (sc-374029 AF488), Alexa Fluor® 546 (sc-374029 AF546), Alexa Fluor® 594 (sc-374029 AF594) or Alexa Fluor® 647 (sc-374029 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374029 AF680) or Alexa Fluor® 790 (sc-374029 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

MMP-3/10 (F-10) is recommended for detection of MMP-3 and MMP-10 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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); partially cross reactive with other MMP family members.

Molecular Weight of MMP-3/10: 57 kDa.

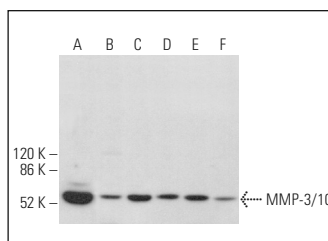
Positive Controls: Hep G2 cell lysate: sc-2227, EOC 20 whole cell lysate: sc-364187 or C2C12 whole cell lysate: sc-364188.

RECOMMENDED SUPPORT REAGENTS

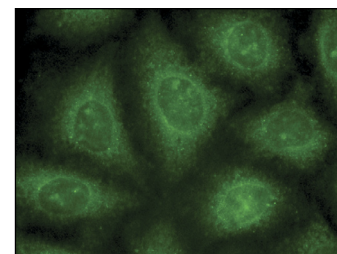
To ensure optimal results, the following support reagents are recommended:

- 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.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MMP-3/10 (F-10): sc-374029. Western blot analysis of MMP-3/10 expression in Hep G2 (A), EOC 20 (B), C2C12 (C), Hs68 (D), RT-4 (E) and T24 (F) whole cell lysates.



MMP-3/10 (F-10): sc-374029. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Henríquez, S., et al. 2017. *In-vitro* study of gonadotrophin signaling pathways in human granulosa cells in relation to progesterone receptor expression. *Reprod. Biomed. Online* 35: 363-371.
2. Wang, J., et al. 2018. Neuroprotective effect of berberine agonist against impairment of learning and memory skills in severe traumatic brain injury via Sirt1/p38 MAPK expression. *Mol. Med. Rep.* 17: 6881-6886.
3. Wang, Y., et al. 2019. Early pregnancy induces expression of Stat1, OAS1 and CXCL10 in ovine spleen. *Animals* 9 pii: E882.

RESEARCH USE

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