Anti-MMP9 antibody [56-2A4] ab58803

Product name: Anti-MMP9 antibody [56-2A4]
Description: Mouse monoclonal [56-2A4] to MMP9
Host species: Mouse
Specificity: Recognizes the ~92 kDa latent and the ~83 kDa active forms of MMP9. Does not react with MMP1, MMP2, MMP3 or MMP13. The antibody recognizes precursor (92 kDa) and active (83 kDa) forms of human and guinea pig MMP-9.

Tested applications: Suitable for: IHC-P, ICC/IF, WB, IHC-Fr
Species reactivity: Reacts with: Mouse, Rat, Rabbit, Guinea pig, Human
Immunogen: Synthetic peptide corresponding to Human MMP9 aa 626-644.
Sequence: LFSGRRLWRFDVKAQMVDP

Database link: P14780

Positive control: Breast carcinoma tissue. Conditioned medium of human fibrosarcoma HT1080 cells. The protein is secreted so you may need to concentrate the protein from cell culture media. Concentrate protein by TCA, acetone or ammonium sulphate precipitation. HL60 cell lysate, U937 cell lysate, HT1080 cell lysate, human spleen lysate

Properties
Form: Liquid
Storage buffer: pH: 7.00
Preservative: 0.1% Sodium azide
 Constituents: 1.64% Sodium phosphate, 0.1% BSA
Purity: Immunogen affinity purified
Purification notes: Is purified.
Clonality: Monoclonal
Clone number: 56-2A4
Isotype IgG1
Light chain type kappa

Applications

Our Abpromise guarantee covers the use of ab58803 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 2 µg/ml.</td>
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<tr>
<td>ICC/IF</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 22496779</td>
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<tr>
<td>WB</td>
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<td>Use a concentration of 2 µg/ml. Detects a band of approximately 92 kDa (predicted molecular weight: 78 kDa).</td>
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<tr>
<td>IHC-Fr</td>
<td>1/500</td>
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Target

Function
May play an essential role in local proteolysis of the extracellular matrix and in leukocyte migration. Could play a role in bone osteoclastic resorption. Cleaves KiSS1 at a Gly-Leu bond. Cleaves type IV and type V collagen into large C-terminal three quarter fragments and shorter N-terminal one quarter fragments. Degrades fibronectin but not laminin or Pz-peptide.

Tissue specificity
Produced by normal alveolar macrophages and granulocytes.

Involvement in disease
Intervertebral disc disease
Metaphyseal anadysplasia 2

Sequence similarities
Belongs to the peptidase M10A family.
Contains 3 fibronectin type-II domains.
Contains 4 hemopexin repeats.

Domain
The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme.

Post-translational modifications
Processing of the precursor yields different active forms of 64, 67 and 82 kDa. Sequentially processing by MMP3 yields the 82 kDa matrix metalloproteinase-9.
N- and O-glycosylated.

Cellular localization
Secreted, extracellular space, extracellular matrix.

Images
Immunohistochemical analysis of rat aorta tissue, staining MMP9 with ab58803 at 1/100 dilution. Staining was detected using DAB.

Western blot - Anti-MMP9 antibody [56-2A4]
(ab58803)

1:500 dilution of ab58803 detected MMP-9 on 10 µg of Human spleen lysates. Arrow indicates protein MMP-9 (~92 kDa). Lower bands indicate active forms of MMP-9
Immunocytochemical analysis of Human PANC-1 cells, labeling MMP9 with ab58803 (1/100). Cells were fixed in formaldehyde, permeabilized in 0.25% Triton-X100 and blocked in 1% BSA for 1 hour at 20°C. DAPI used to stain nuclei.

ab58803 staining MMP9 in murine rib sections by Immunohistochemistry (Frozen sections). Tissue was fixed with paraformaldehyde and permeabilized using 0.1% Triton. Samples were then blocked with 20% serum for 1 hour at 19°C followed by incubation with the primary antibody at a 1/100 dilution for 16 hours at 4°C. An Alexa Fluor®488-conjugated donkey anti-mouse polyclonal (green) (ab150105) was used as secondary antibody at a 1/200 dilution. Counterstain DAPI (blue).
Immunohistochemical analysis of Rabbit spleen tissue section, labeling MMP9 with ab58803 (1/50 with PBS and 0.05% Tween-20 at 23°C for 1 hour). Heat mediated antigen retrieval, using 10mM Citrate pH6.

Immunofluorescence analysis of murine neural stem cells, staining MMP9 (red) with ab58803. Cells were fixed in paraformaldehyde and blocked and permeabilized with 0.1% Triton-X and 10% goat serum. Cells were incubated with primary antibody and an AlexaFluor®568-conjugated goat anti-mouse IgG (ab175473) was used as the secondary antibody.

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