

Product datasheet

Anti-MMP9 antibody [EPR22140-154] ab228402

Recombinant RabMAb

★★★★★ [4 Abreviews](#) [45 References](#) [8 Images](#)

Overview

Product name	Anti-MMP9 antibody [EPR22140-154]
Description	Rabbit monoclonal [EPR22140-154] to MMP9
Host species	Rabbit
Tested applications	Suitable for: IP, IHC-P, IHC-Fr, WB
Species reactivity	Reacts with: Mouse, Rat
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Mouse lung lysate; Rat lung, kidney, lymph node and spleen lysates. IHC-P: Mouse spleen and lung tissues; Rat spleen tissue. IHC-Fr: Mouse lung tissue. IP: Mouse lung lysate.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none">- High batch-to-batch consistency and reproducibility- Improved sensitivity and specificity- Long-term security of supply- Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR22140-154
Isotype	IgG

Applications

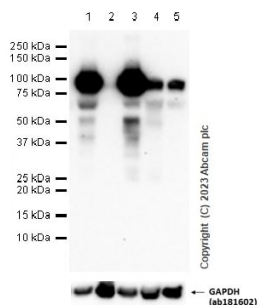
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab228402 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		1/30.
IHC-P	★★★★★ (1)	1/5000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
IHC-Fr	★★★★☆ (1)	1/100.
WB	★★★★★ (2)	1/1000. Detects a band of approximately 92 kDa (predicted molecular weight: 81 kDa).

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



Western blot - Anti-MMP9 antibody [EPR22140-154] (ab228402)

All lanes : Anti-MMP9 antibody [EPR22140-154] (ab228402) at 1/1000 dilution

Lane 1 : Rat lung tissue lysate

Lane 2 : Rat brain tissue lysate

Lane 3 : Rat spleen tissue lysate

Lane 4 : Rat kidney tissue lysate

Lane 5 : Rat lymph node tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

Predicted band size: 81 kDa

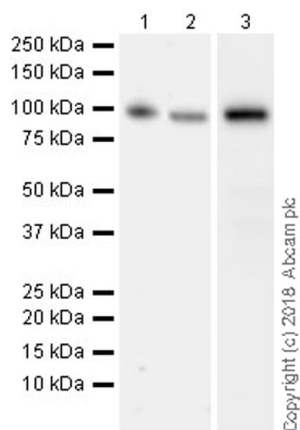
Observed band size: 84-92 kDa

Exposure time: 3 seconds

Blocking and diluting buffer and concentration: 5% NFD/MTBST.

[ab181602](#) was used as loading control for GAPDH.

Although MMP9 has been studied in brain in some publications, ab228402 was unable to detect signal in normal brain tissue, this may be because MMP9 expression level is low in normal brain and would be increased in abnormal conditions like injury (PMID: 31198417)



Western blot - Anti-MMP9 antibody [EPR22140-154] (ab228402)

All lanes : Anti-MMP9 antibody [EPR22140-154] (ab228402) at 1/1000 dilution

Lane 1 : Mouse lung lysate

Lane 2 : Rat lung lysate

Lane 3 : Rat spleen lysate

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

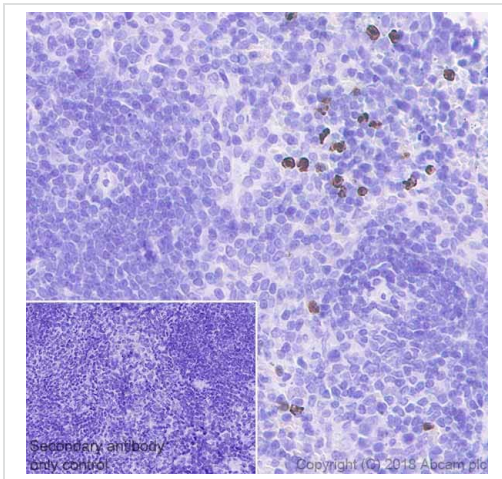
Predicted band size: 81 kDa

Observed band size: 92 kDa

Exposure times : Lanes 1-2: 3 minutes; Lane 3: 26 seconds.

Blocking/Dilution buffer: 5% NFDm/TBST.

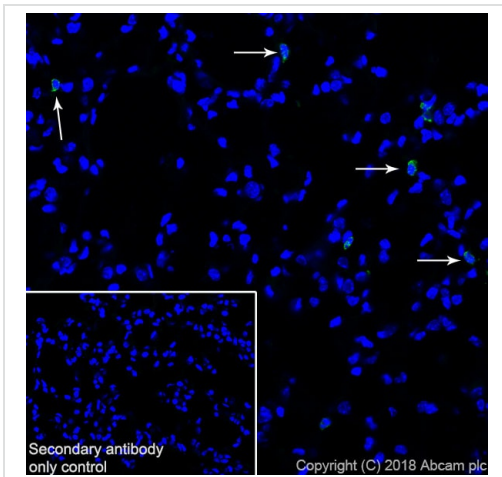
MMP9 is a glycoprotein (PMID: 29329315). The 92 kDa band likely represents the zymogen prior to activating cleavage of the pro-peptide (PMID: 7688350; PMID: 12901881).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP9 antibody [EPR22140-154] (ab228402)

Immunohistochemical analysis of paraffin-embedded mouse spleen tissue labeling MMP9 with ab228402 at 1/5,000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining on polymorphonuclear leukocytes of mouse spleen (PMID: 28775117). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Heat-mediated antigen retrieval using citrate buffer (pH 6.0).



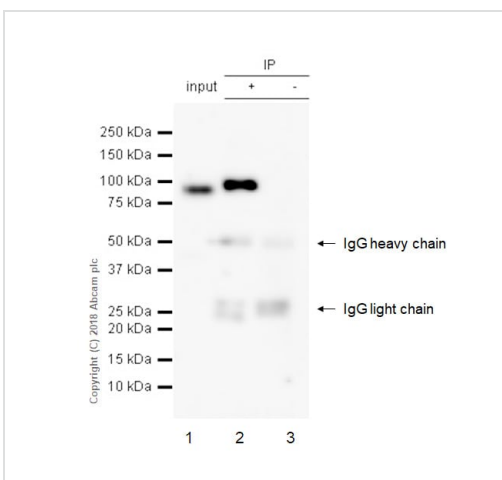
Immunohistochemistry (Frozen sections) - Anti-MMP9 antibody [EPR22140-154] (ab228402)

Immunohistochemical analysis of 4% paraformaldehyde-fixed, 0.2% Triton X-100 permeabilized frozen mouse lung tissue labeling MMP9 with ab228402 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1,000 dilution (green). Positive staining on sporadic cells (macrophage-like) in mouse lung tissue is observed.

The nuclear counterstain is DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1,000 dilution.

Heat-mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 + 0.05% Tween-20).



Immunoprecipitation - Anti-MMP9 antibody [EPR22140-154] (ab228402)

MMP9 was immunoprecipitated from 0.35 mg of mouse brain lysate with ab228402 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab228402 at 1/1,000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/5,000 dilution.

Lane 1: Mouse lung lysate 10 µg (Input).

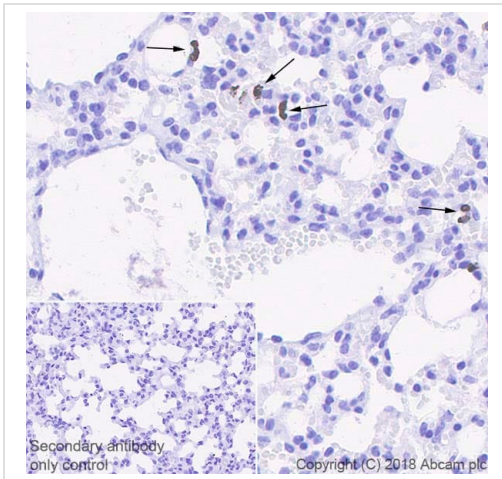
Lane 2: ab228402 IP in mouse lung lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab228402 in mouse lung lysate.

Blocking/Dilution buffer: 5% NFD/MBST.

Exposure time: 20 seconds.

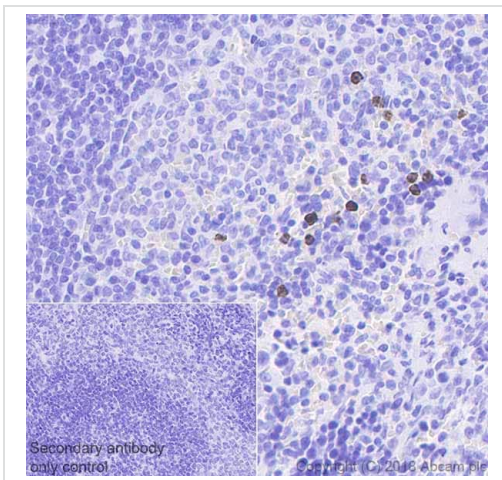
The blot was developed using a high sensitivity ECL.



Immunohistochemical analysis of paraffin-embedded mouse lung tissue labeling MMP9 with ab228402 at 1/5,000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining on polymorphonuclear leukocytes of mouse lung (PMID: 28775117). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Heat-mediated antigen retrieval using citrate buffer (pH 6.0).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP9 antibody [EPR22140-154] (ab228402)







Immunohistochemical analysis of paraffin-embedded rat spleen tissue labeling MMP9 with ab228402 at 1/5,000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining on polymorphonuclear leukocytes of rat spleen (PMID: 28775117). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Heat-mediated antigen retrieval using citrate buffer (pH 6.0).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MMP9 antibody [EPR22140-154] (ab228402)

Why choose a recombinant antibody?

 <p>Research with confidence Consistent and reproducible results</p>	 <p>Long-term and scalable supply Recombinant technology</p>
 <p>Success from the first experiment Confirmed specificity</p>	 <p>Ethical standards compliant Animal-free production</p>

Anti-MMP9 antibody [EPR22140-154] (ab228402)

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