



Rabbit Anti-MMP14 antibody

SL0414R

Product Name:	MMP14
Chinese Name:	基质金属蛋白酶-14抗体
Alias:	MMP 14; MMP-14; Membrane-type matrix metalloproteinase 1; MT-MMP 1; MTMMP1; Membrane-type-1 matrix metalloproteinase; MT1-MMP; MT1MMP; MMP-X1; MT-MMP; MMP14 HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Pig,Sheep,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800ICC=1:100-500IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	54/62kDa
Cellular localization:	The cell membrane
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human MMP14:271-370/582<Extracellular>
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	The matrix metalloproteinases (MMPs) are a family of at least eighteen secreted and membrane bound zincendopeptidases. Collectively, these enzymes can degrade all the components of the extracellular matrix, including fibrillar and non fibrillar collagens, fibronectin, laminin and basement membrane glycoproteins. In general, a signal peptide,

a propeptide, and a catalytic domain containing the highly conserved zinc binding site characterizes the structure of the MMPs. In addition, fibronectin like repeats, a hinge region, and a C terminal hemopexin like domain allow categorization of MMPs into the collagenase, gelatinase, stomelysin and membrane-type MMP subfamilies. All MMPs are synthesized as proenzymes, and most of them are secreted from the cells as proenzymes. Thus, the activation of these proenzymes is a critical step that leads to extracellular matrix breakdown. MMPs are considered to play an important role in wound healing, apoptosis, bone elongation, embryo development, uterine involution, angiogenesis and tissue remodeling, and in diseases such as multiple sclerosis, Alzheimer's, malignant gliomas, lupus, arthritis, periodontitis, glomerulonephritis, atherosclerosis, tissue ulceration, and in cancer cell invasion and metastasis. MMP14 may be an activator of pro gelatinase A and is expressed in fibroblast cells during both wound healing and human cancer progression. MMP14 is expressed in very low levels and may require stimulation with concanavalin A or the phorbol ester TPA to stimulate production of MMP14.

Matrix metalloproteinase-14 precursor is endopeptidase that degrades various components of the extracellular matrix, such as collagen. Activates progelatinase A. Essential for pericellular collagenolysis and modeling of skeletal and extracellular connective tissues during development. [Catalytic activity] Endopeptidase activity. Activates progelatinase A by cleavage of the propeptide at 37-Asn-|-Leu-38. Other bonds hydrolyzed include 35-Gly-|-Ile-36 in the propeptide of collagenase 3, and 341-Asn-|-Phe-342, 441-Asp-|-Leu-442 and 354-Gln-|-Thr-355 in the aggrecan interglobular domain. Highly expressed in placenta, kidney, heart, lung, embryonic skeletal and periskeletal tissues. Belongs to the peptidase M10A family.

Function:

Seems to specifically activate progelatinase A. May thus trigger invasion by tumor cells by activating progelatinase A on the tumor cell surface. May be involved in actin cytoskeleton reorganization by cleaving PTK7.

Subcellular Location:

Membrane; Single-pass type I membrane protein (Potential). Melanosome.

Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

Tissue Specificity:

Expressed in stromal cells of colon, breast, and head and neck. Expressed in lung tumors.

Post-translational modifications:

The precursor is cleaved by a furin endopeptidase.

Similarity:

Belongs to the peptidase M10A family.
Contains 4 hemopexin-like domains.

SWISS:

Q9BGL3

Gene ID:
4323

Database links:

[Entrez Gene: 4323](#)Human

[Entrez Gene: 17387](#)Mouse

[Entrez Gene: 81707](#)Rat

[Omim: 600754](#)Human

[SwissProt: P50281](#)Human

[SwissProt: P53690](#)Mouse

[SwissProt: Q10739](#)Rat

[Unigene: 2399](#)Human

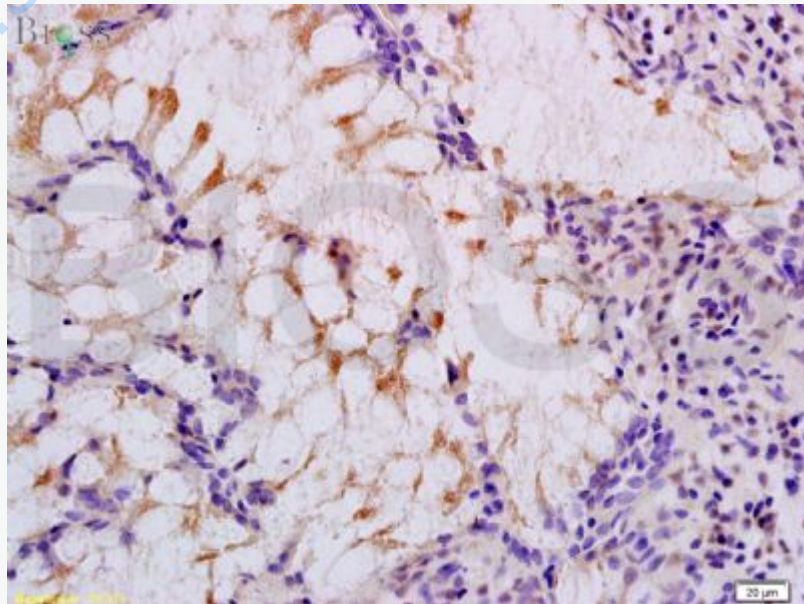
[Unigene: 280175](#)Mouse

[Unigene: 10371](#)Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

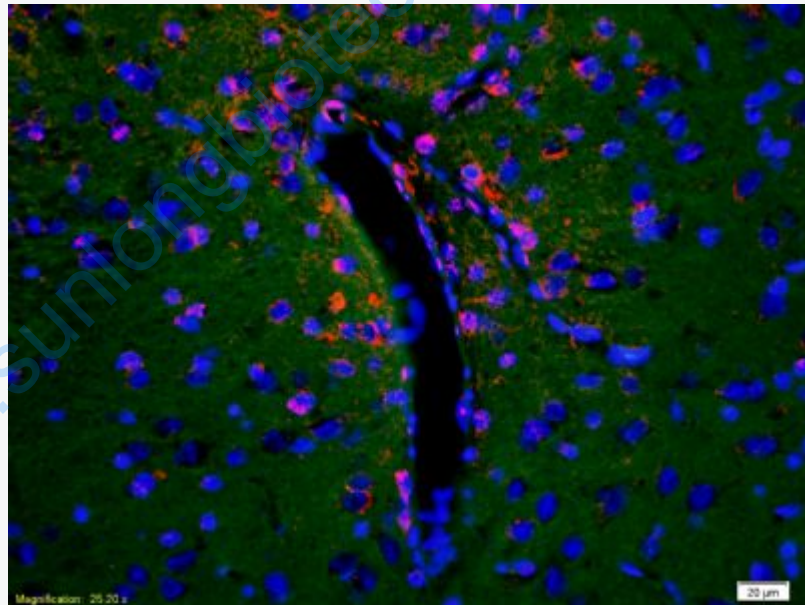
Picture:



Tissue/cell: Human colon carcinoma; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-MMP-14 Polyclonal Antibody, Unconjugated(SL0414R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Tissue/cell: rat brain tissue;4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min;

Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-MMP-14 Polyclonal Antibody, Unconjugated(SL0414R) 1:200, overnight at 4°C; The secondary antibody was Goat Anti-Rabbit IgG, Cy3

conjugated(SL0414R)used at 1:200 dilution for 40 minutes at 37°C.

DAPI(5ug/ml,blue,C-0033) was used to stain the cell nuclei

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