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Anti-MMP14 Antibody

Catalog # AP51349

Product Information

Application	WB, IHC, IF/IC
Primary Accession	P50281
Reactivity	Human, Mouse, Rat, Pig
Host	Rabbit
Clonality	Polyclonal
Calculated MW	65894

Additional Information

Gene ID	4323
Other Names	Matrix metalloproteinase-14; MMP-14; MMP-X1; Membrane-type matrix metalloproteinase 1; MT-MMP 1; MTMMP1; Membrane-type-1 matrix metalloproteinase; MT1-MMP; MT1MMP
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human MMP14. The exact sequence is proprietary.
Dilution	WB~~ 1:1000 IHC~~1:100~500 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

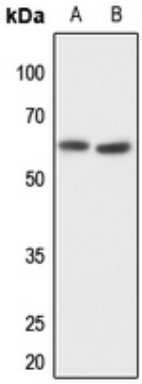
Name	MMP14
Function	Endopeptidase that degrades various components of the extracellular matrix such as collagen (PubMed:8015608). Essential for pericellular collagenolysis and modeling of skeletal and extraskeletal connective tissues during development (By similarity). Activates progelatinase A/MMP2, thereby acting as a positive regulator of cell growth and migration (PubMed:22065321, PubMed:8015608). Involved in the formation of the fibrovascular tissues in association with pro-MMP2 (PubMed:12714657, PubMed:22065321). May be involved in actin cytoskeleton reorganization by cleaving PTK7 (PubMed:20837484). Acts as a regulator of Notch signaling by mediating cleavage and inhibition of DLL1 (PubMed:21572390). Cleaves ADGRB1 to release vasculostatin-40 which inhibits angiogenesis (PubMed:22330140). Acts as a negative regulator of the GDF15-GFRAL aversive response by mediating cleavage and inactivation of GFRAL (PubMed:35177851).

Cellular Location	Cell membrane; Single-pass type I membrane protein. Melanosome. Cytoplasm Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV (PubMed:17081065). Forms a complex with BST2 and localizes to the cytoplasm (PubMed:17081065)
Tissue Location	Expressed in stromal cells of colon, breast, and head and neck. Expressed in lung tumors.

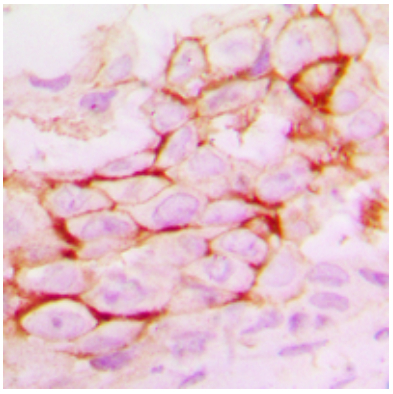
References

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Takino T.,et al.Gene 155:293-298(1995).
Okada A.,et al.Proc. Natl. Acad. Sci. U.S.A. 92:2730-2734(1995).
Will H.,et al.Eur. J. Biochem. 231:602-608(1995).
Luo G.-X.,et al.Submitted (NOV-1995) to the EMBL/GenBank/DDBJ databases.

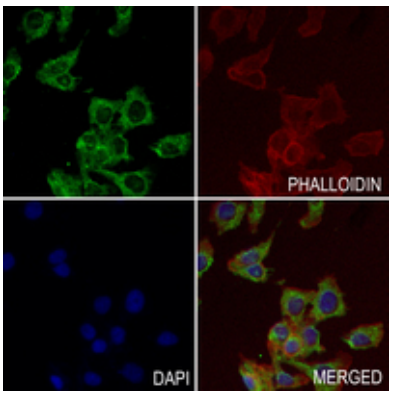
Images



Western blot analysis of MMP14 expression in mouse brain (A), rat brain (B) whole cell lysates. (Predicted band size: 65 kD; Observed band size: 63 kD)



Immunohistochemical analysis of MMP14 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of MMP14 staining in HepG2 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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