abcam

ab302582

Alexa Fluor® 488 Anti-MMP14 antibody [EP1264Y]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP1264Y
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	1/50
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information 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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Matrix metalloproteinase 14 (MMP14) also known as MT1-MMP is a membrane-bound enzyme involved in the breakdown of the extracellular matrix. This protease has a molecular weight of approximately 66 kDa and consists of various structural domains including a catalytic domain and a hinge region. MMP14 is expressed in many tissues including the stromal and cancer cells where it facilitates cell migration and tissue remodeling.
Biological function summary	MMP14 influences extracellular matrix degradation enabling cellular invasion and migration. It exists as a part of macromolecular complexes at the cell surface interacting with other metalloproteinases. This interaction assists in the activation of other MMPs such as pro-MMP2 which further amplify matrix remodeling activities. The hinge region of MMP14 lends flexibility allowing it to effectively engage with substrate proteins.
Pathways	MMP14 significantly affects cell signaling and tissue remodeling pathways. One critical pathway involves the activation of pro-MMP2 which is dependent on MMP14's proteolytic activity. MMP14 also plays a role in the regulation of cell proliferation and apoptosis through its interaction with proteins such as TIMP-2. This relationship between MMP14 and other regulatory proteins emphasizes its functional integration within major biological networks.
Associated diseases and disorders	High MMP14 levels correlate strongly with cancer progression especially in cancers such as breast cancer and melanoma. The ability of MMP14 to degrade the extracellular matrix facilitates tumor invasion and metastasis. Through its regulatory activities MMP14 connects with other proteins like VEGF influencing angiogenesis within tumor microenvironments. Additionally MMP14 involvement in arthritic conditions highlights its role in joint degradation processes worsening the disease through augmented cartilage breakdown.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

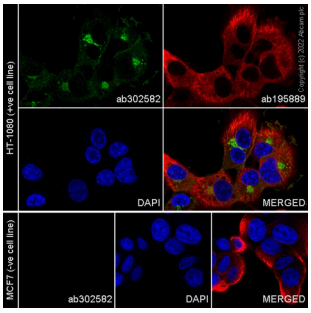
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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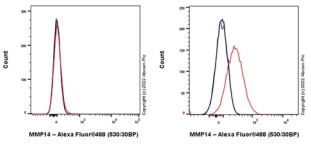
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2 product images



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-MMP14 antibody [EP1264Y] (ab302582)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HT-1080(Human fibrosarcoma epithelial cell) cells labelling MMP14 with ab302582 at 1/50 (10.0 ug/ml) dilution, followed by antibody at 1/None dilution (Green). Confocal image showing cytoplasmic and weakly membranous staining in HT-1080 cellsNegative control: MCF7 (PMID:19208838) is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is at 1/None dilution.



Flow Cytometry - Alexa Fluor® 488 Anti-MMP14 antibody [EP1264Y] (ab302582)

Flow cytometric analysis of / fixed / permeabilized MCF7 (human breast adenocarcinoma epithelial cell, Left) / HT-1080 (human fibrosarcoma epithelial cell, Right) cells labelling MMP14 with ab302582 at 1/50 dilution (1ug) (Red) (Red) compared with a Rabbit monoclonal isotype control - Alexa Fluor® 488 (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Gated on viable cells. Negative control: MCF7 (PMID: 19208838).

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