

TIMP2 Monoclonal Antibody (3A4)

Catalog NumberMA5-12207

Product data sheet

Details		Species Reactivity	
Size	500 µL	Published species	Rabbit, Rat, Bovine, Mouse, Human, Not Applicable
Host/Isotope	Mouse / IgG2a, kappa		
Class	Monoclonal	Tested Applications	Dilution *
Type	Antibody	Immunohistochemistry (Paraffin) (IHC (P))	1:200
Clone	3A4	Western Blot (WB)	1-2 µg/mL
Immunogen	A synthetic peptide from the N-terminal region of human TIMP-2 protein	Published Applications	
Conjugate	Unconjugated	Immunohistochemistry (IHC)	See 31 publications below
Form	Liquid	Western Blot (WB)	See 4 publications below
Concentration	0.2 mg/mL	Immunocytochemistry (ICC/IF)	See 4 publications below
Storage Conditions	4° C	Immunohistochemistry (Paraffin) (IHC (P))	See 2 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

MA5-12207 targets TIMP-2 in IHC (P) and WB applications and shows reactivity with Bovine, Guinea Pig, Human, mouse, Rabbit, and Rat samples. The MA5-12207 immunogen is a synthetic peptide from the N-terminal region of human TIMP-2 protein.

Background/Target Information

TIMP-1 and TIMP-2 are inhibitory enzymes of matrix metalloproteinase family, and are thought to be of great importance in the maintenance of connective tissue integrity. TIMP-2 shows the highest binding affinity to both the latent (pro) and active forms of 72 kDa Type IV collagenase (also known as MMP-2 or gelatinase A). It also has affinity for the active form of 92 kDa Type IV collagenase (also known as MMP-9 or gelatinase B). TIMP-2 inhibits the proteolytic invasiveness of tumor cells and normal placental trophoblast cells.

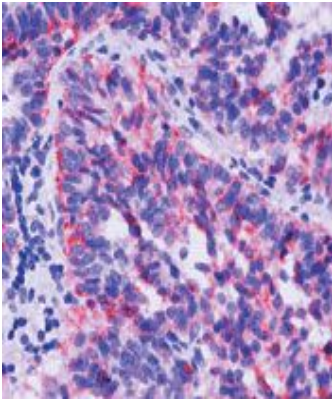
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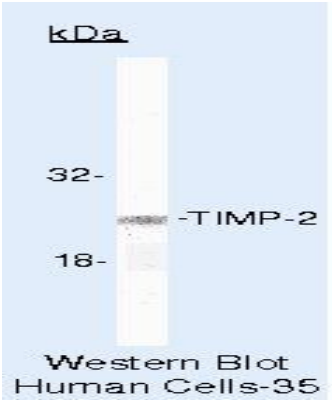
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Product Images For TIMP2 Monoclonal Antibody (3A4)



TIMP2 Antibody (MA5-12207) in IHC (P)

Formalin-fixed, paraffin-embedded human pancreatic tumor stained with TIMP-2 antibody using peroxidase-conjugate and AEC chromogen. Note cytoplasmic staining of tumor cells.



TIMP2 Antibody (MA5-12207) in WB

Western blot of TIMP-2 using TIMP-2 Monoclonal Antibody (Product # MA5-12207) on HFL-1+TPA med Cells.

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PubMed References For TIMP2 Monoclonal Antibody (3A4)

31 Immunohistochemistry References

Species / Dilution	Summary
Human / 1:50	MA5-12207 was used in immunohistochemistry to study the expression of MMPs and TIMPs in breast cancer primary tumors and in local recurrences following mastectomy
	Journal of cancer research and clinical oncology (2010; 136: 1049) "Expression of metalloproteases and their inhibitors in primary tumors and in local recurrences after mastectomy for breast cancer." Author(s):del Casar JM,Carreño G,González LO,Junquera S,González-Reyes S,González JM,Bongera M,Merino AM,Vizoso FJ PubMed Article URL: http://dx.doi.org/10.1007/s00432-009-0750-x
Human / 1:50	MA5-12207 was used in immunohistochemistry to study the expression of MMPs and TIMPs in different histological subtypes of breast cancer
	Journal of cancer research and clinical oncology (2010; 136: 811) "Expression of metalloproteases and their inhibitors in different histological types of breast cancer." Author(s):Del Casar JM,González-Reyes S,González LO,González JM,Junquera S,Bongera M,García MF,Andicoechea A,Serra C,Vizoso FJ PubMed Article URL: http://dx.doi.org/10.1007/s00432-009-0721-2
Human / Not Cited	MA5-12207 was used in immunohistochemistry to examine the prognostic significance of matrix metalloproteinase-9 for locally advanced rectal cancer undergoing preoperative chemoradiotherapy
	International journal of radiation oncology, biology, physics (2007; 67: 196) "Matrix metalloproteinase-9 expression correlated with tumor response in patients with locally advanced rectal cancer undergoing preoperative chemoradiotherapy." Author(s):Unsal Kilic D,Uner A,Akyurek N,Erpolat P,Dursun A,Pak Y PubMed Article URL: http://dx.doi.org/10.1016/j.ijrobp.2006.08.010
Rat / 1:200	MA5-12207 was used in immunohistochemistry to study the regression of endometriotic implants by atorvastatin in a rat model
	Reproductive biomedicine online (2010; 20: 291) "Atorvastatin causes regression of endometriotic implants in a rat model." Author(s):Yilmaz B,Ozat M,Kilic S,Gungor T,Aksoy Y,Lordlar N,Sut N,Aksakal O PubMed Article URL: http://dx.doi.org/10.1016/j.rbmo.2009.11.004
Human / 1:50	MA5-12207 was used in immunohistochemistry to study the role of MMPs and TIMPs in breast cancer
	British journal of cancer (2007; 96: 903) "Study of matrix metalloproteinases and their inhibitors in breast cancer." Author(s):Vizoso FJ,González LO,Corte MD,Rodríguez JC,Vázquez J,Lamelas ML,Junquera S,Merino AM,García-Muñiz JL PubMed Article URL: http://dx.doi.org/10.1038/sj.bjc.6603666
Human / Not Cited	MA5-12207 was used in immunohistochemistry to investigate the expression of MMP-2,-7,-9,MT1-MMP, and TIMP-1 and -2 in ovarian tumors
	International journal of oncology (2008; 33: 1239) "Serous and mucinous ovarian tumors express different profiles of MMP-2, -7, -9, MT1-MMP, and TIMP-1 and -2." Author(s):Brun JL,Cortez A,Commo F,Uzan S,Rouzier R,Daraï E PubMed Article URL: http://www.ncbi.nlm.nih.gov/pubmed/19020757
Human / Not Cited	MA5-12207 was used in immunohistochemistry to study the role and clinical significance of MMPs and their inhibitors in squamous cell carcinoma of the tonsil
	Clinical and experimental otorhinolaryngology (2011; 4: 88) "Expression of matrix metalloproteinases and their inhibitors in squamous cell carcinoma of the tonsil and their clinical significance." Author(s):Lee SY,Park SY,Kim SH,Choi EC PubMed Article URL: http://dx.doi.org/10.3342/ceo.2011.4.2.88
Human / 1:250	MA5-12207 was used in immunohistochemistry to study the expression of MMP2, MMP9, TIMP1 and TIMP2 in arteries from patients with fatal acute Kawasaki's disease
	Arteriosclerosis, thrombosis, and vascular biology (2003; 23: 576) "Systemic arterial expression of matrix metalloproteinases 2 and 9 in acute Kawasaki disease." Author(s):Gavin PJ,Crawford SE,Shulman ST,Garcia FL,Rowley AH PubMed Article URL: http://dx.doi.org/10.1161/01.ATV.0000065385.47152.FD

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	MA5-12207 was used in immunohistochemistry to study the expression of TIMP2 in uterine cervical cancer
Human / 1:200	Journal of surgical oncology (2011; 104: 210) "Semi-quantitative expression of tissue inhibitor of matrix metalloproteinase-2 in cancer of uterine cervix." Author(s):Wu YC,Wang PH,Tsai A,Yang SF,Chen SC PubMed Article URL: http://dx.doi.org/10.1002/jso.21918
Human / 1:75	MA5-12207 was used in immunohistochemistry to study the expression of matrix metalloproteinases and tissue inhibitors of metalloproteinases in the normal lungs and those of congenital diaphragmatic hernia patients Histopathology (2006; 48: 588) "The distribution of matrix metalloproteinases and tissue inhibitors of metalloproteinases in the lungs of congenital diaphragmatic hernia patients and age-matched controls." Author(s):Masumoto K,de Rooij JD,Suita S,Rottier R,Tibboel D,de Krijger RR PubMed Article URL: http://dx.doi.org/10.1111/j.1365-2559.2006.02379.x
Human / 1:200	MA5-12207 was used in immunohistochemistry to study the prognostic value of MMP-2 and TIMP2 expression in uterine cervical cancer Reproductive sciences (Thousand Oaks, Calif.) (2011; 18: 798) "Significant relation of tissue inhibitor of matrix metalloproteinase-2 and its combination with matrix metalloproteinase-2 to survival of patients with cancer of uterine cervix." Author(s):Wang PH,Ko JL,Yang SF,Tsai HT,Tee YT,Han CP,Lin LY,Chen SC,Shih YT PubMed Article URL: http://dx.doi.org/10.1177/1933719111398143
Human / 1:50	MA5-12207 was used in immunohistochemistry to study the expression of MMPs and TIMPs in prostate cancer British journal of cancer (2010; 102: 922) "Study of matrix metalloproteinases and their inhibitors in prostate cancer." Author(s):Escaff S,Fernández JM,González LO,Suárez A,González-Reyes S,González JM,Vizoso FJ PubMed Article URL: http://dx.doi.org/10.1038/sj.bjc.6605569
Human / 1:50	MA5-12207 was used in immunohistochemistry to study the clinical significance MMP and TIMP expression by intratumor stromal and invasive front fibroblasts in breast carcinoma Breast cancer research and treatment (2009; 116: 39) "Comparative analysis and clinical value of the expression of metalloproteases and their inhibitors by intratumor stromal fibroblasts and those at the invasive front of breast carcinomas." Author(s):Del Casar JM,González LO,Alvarez E,Junquera S,Marín L,González L,Bongera M,Vázquez J,Vizoso FJ PubMed Article URL: http://dx.doi.org/10.1007/s10549-009-0351-z
Rabbit / Not Cited	MA5-12207 was used in immunohistochemistry to study the expression of MMPs and TIMPs in chronic doxorubicin cardiomyopathy Veterinary pathology (2007; 44: 494) "Effects of autologous stem cells on immunohistochemical patterns and gene expression of metalloproteinases and their tissue inhibitors in doxorubicin cardiomyopathy in a rabbit model." Author(s):Aupperle H,Garbade J,Schubert A,Barten M,Dhein S,Schoon HA,Mohr FW PubMed Article URL: http://dx.doi.org/10.1354/vp.44-4-494
Human / 1:50	MA5-12207 was used in immunohistochemistry to study the expression of MMPs and TIMPs in different histopathological regions of oral squamous cell carcinomas Australian dental journal (2012; 57: 300) "Immunoexpression of matrix metalloproteinases and their inhibitors in different areas of oral squamous cell carcinoma." Author(s):Suarez-Roa ML,Asbun-Bojalil J,Ruiz-Godoy LM,Meneses-García AA PubMed Article URL: http://dx.doi.org/10.1111/j.1834-7819.2012.01705.x
Human / 1:100	MA5-12207 was used in immunohistochemistry to study the expression of MMPs and TIMPs in the chamber angle of normal eyes and patients with primary open-angle glaucoma and exfoliation glaucoma Graefe's archive for clinical and experimental ophthalmology = Albrecht von Graefes Archiv fur klinische und experimentelle Ophthalmologie (2007; 245: 697) "Matrix metalloproteinases and their inhibitors in the chamber angle of normal eyes and patients with primary open-angle glaucoma and exfoliation glaucoma." Author(s):Rönkkö S,Rekonen P,Kaarniranta K,Puustjärvi T,Teräsvirta M,Uusitalo H PubMed Article URL: http://dx.doi.org/10.1007/s00417-006-0440-1
Rat / 1:200	MA5-12207 was used in immunohistochemistry to study the mechanism by which metformin regresses endometriotic implants in rats American journal of obstetrics and gynecology (2010; 202: 368.e1) "Metformin regresses endometriotic implants in rats by improving implant levels of superoxide dismutase, vascular endothelial growth factor, tissue inhibitor of metalloproteinase-2, and matrix metalloproteinase-9." Author(s):Yilmaz B,Sucak A,Kilic S,Aksakal O,Aksoy Y,Lortlar N,Sut N,Gungor T PubMed Article URL: http://dx.doi.org/10.1016/j.ajog.2009.10.873

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	MA5-12207 was used in immunohistochemistry to study an EMMPRIN-induced MMP-2 activation cascade in human cervical squamous cell carcinoma
Human / 1:400	International journal of cancer (2006; 118: 2991) "EMMPRIN-induced MMP-2 activation cascade in human cervical squamous cell carcinoma." Author(s):Sier CF,Zuidwijk K,Zijlmans HJ,Hanemaaijer R,Mulder-Stapel AA,Prins FA,Dreef EJ,Kenter GG,Fleuren GJ, Gorter A PubMed Article URL: http://dx.doi.org/10.1002/ijc.21778
	MA5-12207 was used in immunohistochemistry to compare the immunohistochemical expression of TIMP1 and TIMP2 between clearly invasive carcinomas and "in situ" trophoblast invasion
Human / Not Cited	Medical oncology (Northwood, London, England) (2012; 29: 2270) "Comparative study of the immunohistochemical expression of tissue inhibitors of metalloproteinases 1 and 2 between clearly invasive carcinomas and "in situ" trophoblast invasion." Author(s):Dimo B,Ioannidis I,Karameris A,Vilaras G,Tzoumakari P,Nonni A,Patsouris E,Lazaris AC PubMed Article URL: http://dx.doi.org/10.1007/s12032-011-0032-8
	MA5-12207 was used in immunohistochemistry to study the association between the expression of Cox-2 and HER-2/neu in human breast cancer
Human / 1:50	Cancer research and treatment (2005; 37: 165) "Expression of cyclooxygenase-2 in human breast cancer: relationship with HER-2/neu and other clinicopathological prognostic factors." Author(s):Nam E, Lee SN, Im SA, Kim DY, Lee KE, Sung SH PubMed Article URL: http://dx.doi.org/10.4143/crt.2005.37.3.165
	MA5-12207 was used in immunohistochemistry to study the overexpression of MMPs and TIMPs in mononuclear inflammatory cells in breast cancer and the correlation with metastatic relapse
Human / 1:50	British journal of cancer (2007; 97: 957) "Overexpression of matrix metalloproteinases and their inhibitors in mononuclear inflammatory cells in breast cancer correlates with metastasis-relapse." Author(s):González LO,Pidal I,Junquera S,Corte MD,Vázquez J,Rodríguez JC,Lamelas ML,Merino AM,García-Muñiz JL, Vizoso FJ PubMed Article URL: http://dx.doi.org/10.1038/sj.bjc.6603963
	MA5-12207 was used in immunohistochemistry to investigate the prognostic value of gelatinase expression in patients with rectal carcinoma
Human / Not Cited	American journal of clinical oncology (2008; 31: 55) "Gelatinase B expression as a prognostic factor in patients with stage II/III rectal carcinoma treated by postoperative adjuvant therapy." Author(s):Unsal D,Akyurek N,Uner A,Erpolat OP,Han U,Akmansu M,Mentes BB,Dursun A PubMed Article URL: http://dx.doi.org/10.1097/COC.0b013e318068b4e2
	MA5-12207 was used in immunohistochemistry to study the immunohistochemical expression of MMP-2 and TIMP-2 in bovine uteri with adenomyosis
Bovine / 1:100	Veterinary research communications (2011; 35: 261) "Differential immunohistochemical expression of matrix metalloproteinase-2 and tissue inhibitor of metalloproteinase-2 in cow uteri with adenomyosis during follicular phase." Author(s):Moreira L,de Carvalho EC,Caldas-Bussiere MC PubMed Article URL: http://dx.doi.org/10.1007/s11259-011-9470-1
	MA5-12207 was used in immunohistochemistry to study the immunohistochemical expression of MMPs and TIMPs in different types of breast carcinoma
Human / 1:50	Human pathology (2010; 41: 980) "Immunohistochemical study of matrix metalloproteinases and their inhibitors in pure and mixed invasive and in situ ductal carcinomas of the breast." Author(s):Gonzalez LO,Junquera S,del Casar JM,González L,Marín L,González-Reyes S,Andicoechea A,González-Fernández R,González JM,Pérez-Fernández R,Vizoso FJ PubMed Article URL: http://dx.doi.org/10.1016/j.humpath.2009.08.027
	MA5-12207 was used in immunohistochemistry to examine the alteration of matrix metalloproteinases during menstrual cycle
Human / 4.0 µg/mL	Human reproduction (Oxford, England) (2009; 24: 333) "Menstrual activity of matrix metalloproteinases is decreased in endometrium regenerating after thermal ablation." Author(s):Brun JL,Galant C,Delvaux D,Lemoine P,Henriet P,Courtoy PJ,Marbaix E PubMed Article URL: http://dx.doi.org/10.1093/humrep/den392

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	MA5-12207 was used in immunohistochemistry to study the mechanism by which halofuginone prevents cerulein-induced pancreatic fibrosis
Mouse / 1:250	<p>Pancreas (2009; 38: 427)</p> <p>"Inhibition of transforming growth factor beta signaling by halofuginone as a modality for pancreas fibrosis prevention."</p> <p>Author(s):Zion O,Genin O,Kawada N,Yoshizato K,Roffe S,Nagler A,Iovanna JL,Halevy O,Pines M</p> <p>PubMed Article URL:http://dx.doi.org/10.1097/MPA.0b013e3181967670</p>
Rabbit / Not Cited	<p>MA5-12207 was used in immunohistochemistry to develop a novel rabbit model of intimal hyperplasia</p> <p>Cardiovascular pathology : the official journal of the Society for Cardiovascular Pathology (2013; 21: 490)</p> <p>"A novel model of intimal hyperplasia with graded hypoosmotic damage."</p> <p>Author(s):Song M,Shen HT,Cui JJ,Zhou XG,Zhong X,Peng CH,Liu HY,Tian Y</p> <p>PubMed Article URL:http://dx.doi.org/10.1016/j.carpath.2012.02.007</p>
Rat / 1:100	<p>MA5-12207 was used in immunohistochemistry to characterize effects of alpha2b treatment on fibrosis and metalloproteinase levels</p> <p>The Journal of international medical research (2010; 38: 187)</p> <p>"The effects of interferon alpha2b on chemically-induced peritoneal fibrosis and on peritoneal tissue MMP-2 and TIMP-2 levels in rats."</p> <p>Author(s):Ucar E,Borazan A,Semerici E,Binici DN,Yaldiz M,Aysal A,Altug E,Kuvandik C,Huzmeli C,Yetim T,Canda S</p> <p>PubMed Article URL:http://dx.doi.org/10.1177/147323001003800121</p>
Human / 1:200	<p>MA5-12207 was used in immunohistochemistry to study the spatio-temporal expression of TIMPs following dorsal root injury</p> <p>Journal of neuroscience research (2006; 84: 278)</p> <p>"Distribution and expression of tissue inhibitors of metalloproteinase in dorsal root entry zone and dorsal column after dorsal root injury."</p> <p>Author(s):Zhang X,Bo X,Anderson PN,Lieberman AR,Zhang Y</p> <p>PubMed Article URL:http://dx.doi.org/10.1002/jnr.20892</p>
Human / 1:50	<p>MA5-12207 was used in immunohistochemistry to study the immunohistochemical expression of MMPs and TIMPs in ductal carcinoma in situ of the breast</p> <p>Journal of cancer research and clinical oncology (2010; 136: 1313)</p> <p>"Expression of metalloproteinases and their inhibitors by tumor and stromal cells in ductal carcinoma in situ of the breast and their relationship with microinvasive events."</p> <p>Author(s):González LO,González-Reyes S,Junquera S,Marín L,González L,Del Casar JM,González JM,Vizoso F</p> <p>PubMed Article URL:http://dx.doi.org/10.1007/s00432-010-0782-2</p>
Human / 1:75	<p>MA5-12207 was used in immunohistochemistry to study MMP and TIMP expression during normal human pulmonary development</p> <p>Histopathology (2005; 47: 410)</p> <p>"Expression of matrix metalloproteinases and tissue inhibitors of metalloproteinases during normal human pulmonary development."</p> <p>Author(s):Masumoto K,de Rooij JD,Suita S,Rottier R,Tibboel D,de Krijger RR</p> <p>PubMed Article URL:http://dx.doi.org/10.1111/j.1365-2559.2005.02228.x</p>
4 Western Blot References	
Species / Dilution	Summary
Human / 1:200	<p>MA5-12207 was used in western blot to study the role of the 67 kDa laminin receptor in the mechanism by which hypoxia promotes human gastric cancer metastasis</p> <p>Cancer science (2010; 101: 1653)</p> <p>"Hypoxia promotes metastasis in human gastric cancer by up-regulating the 67-kDa laminin receptor."</p> <p>Author(s):Liu L,Sun L,Zhao P,Yao L,Jin H,Liang S,Wang Y,Zhang D,Pang Y,Shi Y,Chai N,Zhang H,Zhang H</p> <p>PubMed Article URL:http://dx.doi.org/10.1111/j.1349-7006.2010.01592.x</p>
Rat / 1:1000	<p>MA5-12207 was used in western blot to study the effects of connective tissue growth factor on the production of MMP-2 and TIMP-2 by cultured renal interstitial fibroblasts</p> <p>Wound repair and regeneration : official publication of the Wound Healing Society [and] the European Tissue Repair Society (2008; 15: 817)</p> <p>"Connective tissue growth factor increases matrix metalloproteinase-2 and suppresses tissue inhibitor of matrix metalloproteinase-2 production by cultured renal interstitial fibroblasts."</p> <p>Author(s):Yang M,Huang H,Li J,Huang W,Wang H</p> <p>PubMed Article URL:http://dx.doi.org/10.1111/j.1524-475X.2007.00284.x</p>

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	MA5-12207 was used in western blot to study the expression of MMPs and TIMPs in brain arteriovenous malformations
Human / Not Cited	Stroke (2003; 34: 925) "Abnormal expression of matrix metalloproteinases and tissue inhibitors of metalloproteinases in brain arteriovenous malformations." Author(s):Hashimoto T,Wen G,Lawton MT,Boudreau NJ,Bollen AW,Yang GY,Barbaro NM,Higashida RT,Dowd CF, Halbach VV,Young WL PubMed Article URL: http://dx.doi.org/10.1161/01.STR.0000061888.71524.DF
Rat / 2 µg/mL	MA5-12207 was used in western blot to study the effects of Huangqi decoction on apoptosis, fibrosis, and hepatic inflammation in a rat model of liver fibrosis BMC complementary and alternative medicine (2012; 12:) "Huangqi decoction inhibits apoptosis and fibrosis, but promotes Kupffer cell activation in dimethylnitrosamine-induced rat liver fibrosis." Author(s):Liu C,Wang G,Chen G,Mu Y,Zhang L,Hu X,Sun M,Liu C,Liu P PubMed Article URL: http://dx.doi.org/10.1186/1472-6882-12-51
4 Immunocytochemistry References	
Species / Dilution	Summary
Human / 1:200	MA5-12207 was used in Immunohistochemistry to assess the prevalence and clinical significance of matrix metalloproteinase and tissue inhibitor of metalloproteinase expression in invasive breast cancer to determine its association with immunohistochemical-based molecular classification. BMC cancer (2014; 14:) "Expression of matrix metalloproteinases and their inhibitors in different immunohistochemical-based molecular subtypes of breast cancer." Author(s):Kim GE,Lee JS,Choi YD,Lee KH,Lee JH,Nam JH,Choi C,Kim SS,Park MH,Yoon JH,Kweon SS PubMed Article URL: http://dx.doi.org/10.1186/1471-2407-14-959
Human / 1:200	MA5-12207 was used in Western Blotting to investigate the enhanced anti-proliferative effect of Lactobacillus casei strain Shirota on geniposide actions in human oral squamous carcinoma HSC-3 cells. Molecules (Basel, Switzerland) (2018; 23:) "<i>Lactobacillus casei</i> Strain Shirota Enhances the In Vitro Antiproliferative Effect of Geniposide in Human Oral Squamous Carcinoma HSC-3 Cells." Author(s):Qian Y,Song JL,Sun P,Yi R,Liu H,Feng X,Park KY,Zhao X PubMed Article URL: http://dx.doi.org/10.3390/molecules23051069
Human / 10 µg/mL	MA5-12207 was used in immunocytochemistry to study neuroblastoma and the regulation of angiogenesis Cancer letters (2003; 197: 47) "The regulation of angiogenesis in neuroblastoma." Author(s):Chlenski A,Liu S,Cohn SL PubMed Article URL: http://dx.doi.org/10.1016/s0304-3835(03)00082-x
Human / Not Cited	MA5-12207 was used in Immunohistochemistry to analyse the epithelial and stromal expression of matrix metalloproteinase (MMP)-2, MMP-7, MMP-9, MT1-MMP, tissue inhibitor of MMP (TIMP)-1 and TIMP-2 in advanced epithelial ovarian cancers to assess their prognostic value. Oncology reports (2012; 27: 1049) "Expression of MMP-2, -7, -9, MT1-MMP and TIMP-1 and -2 has no prognostic relevance in patients with advanced epithelial ovarian cancer." Author(s):Brun JL,Cortez A,Lesieur B,Uzan S,Rouzier R,Darai E PubMed Article URL: http://dx.doi.org/10.3892/or.2011.1608
2 Immunohistochemistry (Paraffin) References	
Species / Dilution	Summary
Human / Not Cited	MA512207 was used in immunohistochemistry - paraffin section to investigate the roles of MMP-9 and TIMP-2 in regulating tumor progression in ameloblastomas Applied immunohistochemistry & molecular morphology : AIMM (2017; 24: 364) "Interplay Between MMP-9 and TIMP-2 Regulates Ameloblastoma Behavior and Tooth Morphogenesis." Author(s):Nunia K,Urs AB,Kumar P PubMed Article URL: http://dx.doi.org/10.1097/PAI.0000000000000196
Not Applicable / 1:100	MA5-12207 was used in immunohistochemistry - paraffin section to study the clinical significance and expression of metalloproteases and their inhibitors in invasive breast carcinoma endothelial cells Clinical breast cancer (2016; 16: e83) "Expression and Clinical Significance of Metalloproteases and Their Inhibitors by Endothelial Cells From Invasive Breast Carcinomas." Author(s):Cid S,Eiro N,González LO,Beridze N,Vazquez J,Vizoso FJ PubMed Article URL: http://dx.doi.org/10.1016/j.clbc.2016.05.007

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