TIMP2 Monoclonal Antibody (3A4)

Catalog Number MA5-12207

Details

<table>
<thead>
<tr>
<th>Size</th>
<th>500 µL</th>
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<tr>
<td>Host/Isotope</td>
<td>Mouse / IgG2a, kappa</td>
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<tr>
<td>Class</td>
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<td>Type</td>
<td>Antibody</td>
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<tr>
<td>Clone</td>
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<tr>
<td>Immunogen</td>
<td>A synthetic peptide from the N-terminal region of human TIMP-2 protein</td>
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Species Reactivity

<table>
<thead>
<tr>
<th>Species Reactivity</th>
<th>Species reactivity</th>
<th>Published species</th>
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<tbody>
<tr>
<td></td>
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<td>Bovine, Guinea pig, Human, Mouse, Rabbit, Rat</td>
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Published Applications

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<th>Tested Applications</th>
<th>Dilution *</th>
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<tr>
<td>Immunohistochemistry (Paraffin) (IHC (P))</td>
<td>1:200</td>
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<tr>
<td>Western Blot (WB)</td>
<td>1-2 µg/mL</td>
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Species Reactivity

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<tr>
<th>Tested Applications</th>
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<tr>
<td>Immunohistochemistry (IHC)</td>
<td>See 31 publications below</td>
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<tr>
<td>Immunocytochemistry (ICC/IF)</td>
<td>See 4 publications below</td>
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<tr>
<td>Immunohistochemistry (Paraffin) (IHC (P))</td>
<td>See 2 publications below</td>
</tr>
<tr>
<td>Western Blot (WB)</td>
<td>See 4 publications below</td>
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</tbody>
</table>

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.

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

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.
<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
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<tbody>
<tr>
<td><strong>Human / 1:50</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>
|                    | Journal of cancer research and clinical oncology (Jul 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 (Jun 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 |
| **Human / 1:50**    | MA5-12207 was used in immunohistochemistry to study the role of MMPs and TIMPs 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 study the expression of MMP-2,-7,-9,MT1-MMP, and TIMP-1 and -2 in ovarian tumors |
|                    | International journal of oncology (Dec 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, Darair E  
| **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 (Jun 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 |
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 |
MA5-12207 was used in immunohistochemistry to study the expression of TIMP2 in uterine cervical cancer.

Human / 1:200

Journal of surgical oncology (Aug 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

Histopathology (Apr 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): Masamoto K, de Rooij JD, Suzuki 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

Histopathology (Apr 2006; 48: 588)

"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/10.1117/1933719111398143

Human / 1:200


"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


Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for uses not stated in the Documentation, nor warranty implied, is given. If a Product is subjected to normal, proper and intended usage, the warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.
MA5-12207 was used in immunohistochemistry to study the mechanism by which metformin regresses endometriotic implants in rats

American journal of obstetrics and gynecology (Apr 2010; 202: 368.61)
"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."
PubMed Article URL:http://dx.doi.org/10.1016/j.ajog.2009.10.873

MA5-12207 was used in immunohistochemistry to study an EMMPRIN-induced MMP-2 activation cascade in human cervical squamous cell carcinoma

International journal of cancer (Jun 2006; 118: 2991)
"EMMPRIN-induced MMP-2 activation cascade in human cervical squamous cell carcinoma."
Author(s):Sier CF,Zuidwijk K,Zijlmans HJ,Hamengaaijer 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

"Comparative study of the immunohistochemical expression of tissue inhibitors of metalloproteinases 1 and 2 between clearly invasive carcinomas and "in situ" trophoblast invasion."
PubMed Article URL:http://dx.doi.org/10.1002/s12032-011-0002-8

MA5-12207 was used in immunohistochemistry to study the association between the expression of Cox-2 and HER-2/neu in human breast cancer

Cancer research and treatment (Jun 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

British journal of cancer (Oct 2007; 97: 957)
"Overexpression of matrix metalloproteinases and their inhibitors in mononuclear inflammatory cells in breast cancer correlates with metastasis-relapse."
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

American journal of clinical oncology (Feb 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.0b013e3180868de2

MA5-12207 was used in immunohistochemistry to study the immunohistochemical expression of MMP-2 and TIMP-2 in bovine uteri with adenomyosis

Veterinary research communications (Jun 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 (Jul 2010; 41: 980)

"Immunohistochemical study of matrix metalloproteinases and their inhibitors in pure and mixed invasive and in situ ductal carcinomas of the breast."


PubMed Article URL: http://dx.doi.org/10.1016/j.humpath.2009.08.027

MA5-12207 was used in immunohistochemistry to study the mechanism by which halofuginone prevents cerulein-induced pancreatic fibrosis

Mouse / 1:250

Pancras (May 2009; 38: 427)

"Inhibition of transforming growth factor beta signaling by halofuginone as a modality for pancreas fibrosis prevention."


PubMed Article URL: http://dx.doi.org/10.1097/MPA.0b013e3181967670

MA5-12207 was used in immunohistochemistry to study the alteration of matrix metalloproteinases during menstrual cycle

Human / 4.0 µg/mL


"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

MA5-12207 was used in immunohistochemistry to develop a novel rabbit model of intimal hyperplasia

Rabbit / Not Cited

Cardiovascular pathology : the official journal of the Society for Cardiovascular Pathology (May 2013; 21: 490)

"A novel model of intimal hyperplasia with graded hypoosmotic damage."

Author(s): Gonzalez LO, Gonzalez-Reyes S, Junquera S, Marín L, Gonzalez JM, Del Casar JM, Vizoso FJ

PubMed Article URL: http://dx.doi.org/10.1177/14732300103800121

MA5-12207 was used in immunohistochemistry to characterize effects of alpha2b treatment on fibrosis and metalloproteinase levels

Rat / 1:100

The Journal of international medical research (Jun 2010; 38: 187)

"The effects of interferon alpha2b on chemically-induced peritoneal fibrosis and on peritoneal tissue MMP-2 and TIMP-2 levels in rats."

Author(s): Ucar E, Borazan A, Senerci E, Bincici DN, Yaldiz M, Aysal A, Altug E, Kuvandik C, Huzmeli C, Yetim T, Canda S

PubMed Article URL: http://dx.doi.org/10.1177/14732300103800121

MA5-12207 was used in immunohistochemistry to study the spatio-temporal expression of TIMPs following dorsal root injury

Human / 1:200

Journal of neuroscience research (Aug 2006; 84: 278)

"Distribution and expression of tissue inhibitors of metalloproteinase in dorsal root entry zone and dorsal column after dorsal root injury."

Author(s): Zhang X, Bo X, Anderson PN, Lieberman AR, Zhang Y

PubMed Article URL: http://dx.doi.org/10.1002/jnr.20892

MA5-12207 was used in immunohistochemistry to study the immunohistochemical expression of MMPs and TIMPs in ductal carcinoma in situ of the breast

Human / 1:50

Journal of cancer research and clinical oncology (Sep 2010; 136: 1313)

"Expression of metalloproteases and their inhibitors by tumor and stromal cells in ductal carcinoma in situ of the breast and their relationship with microinvasive events."

Author(s): Gonzalez LO, Gonzalez-Reyes S, Junquera S, Marín L, Gonzalez L, Del Casar JM, Gonzalez JM, Vizoso FJ

PubMed Article URL: http://dx.doi.org/10.1007/s00432-010-0782-2

MA5-12207 was used in immunohistochemistry to study MMP and TIMP expression during normal human pulmonary development

Human / 1:75

Histopathology (Oct 2005; 47: 410)

"Expression of matrix metalloproteinases and tissue inhibitors of metalloproteinases during normal human pulmonary development."

Author(s): Masamoto K, de Rooij JD, Saito S, Rottier R, Tibboel D, de Krijger RR

PubMed Article URL: http://dx.doi.org/10.1111/j.1365-2559.2005.02228.x

4 Immunocytochemistry References

Species / Dilution

Summary


Human / 1:50

Human pathology (Jul 2010; 41: 980)

"Immunohistochemical study of matrix metalloproteinases and their inhibitors in pure and mixed invasive and in situ ductal carcinomas of the breast."


PubMed Article URL: http://dx.doi.org/10.1016/j.humpath.2009.08.027

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Author(s): Gonzalez LO, Gonzalez-Reyes S, Junquera S, Marín L, Gonzalez JM, Del Casar JM, Vizoso FJ

PubMed Article URL: http://dx.doi.org/10.1177/14732300103800121

MA5-12207 was used in immunohistochemistry to characterize effects of alpha2b treatment on fibrosis and metalloproteinase levels

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"The effects of interferon alpha2b on chemically-induced peritoneal fibrosis and on peritoneal tissue MMP-2 and TIMP-2 levels in rats."

Author(s): Ucar E, Borazan A, Senerci E, Bincici DN, Yaldiz M, Aysal A, Altug E, Kuvandik C, Huzmeli C, Yetim T, Canda S

PubMed Article URL: http://dx.doi.org/10.1177/14732300103800121

MA5-12207 was used in immunohistochemistry to study the spatio-temporal expression of TIMPs following dorsal root injury

Human / 1:200

Journal of neuroscience research (Aug 2006; 84: 278)

"Distribution and expression of tissue inhibitors of metalloproteinase in dorsal root entry zone and dorsal column after dorsal root injury."

Author(s): Zhang X, Bo X, Anderson PN, Lieberman AR, Zhang Y

PubMed Article URL: http://dx.doi.org/10.1002/jnr.20892

MA5-12207 was used in immunohistochemistry to study the immunohistochemical expression of MMPs and TIMPs in ductal carcinoma in situ of the breast

Human / 1:50

Journal of cancer research and clinical oncology (Sep 2010; 136: 1313)

"Expression of metalloproteases and their inhibitors by tumor and stromal cells in ductal carcinoma in situ of the breast and their relationship with microinvasive events."

Author(s): Gonzalez LO, Gonzalez-Reyes S, Junquera S, Marín L, Gonzalez L, Del Casar JM, Gonzalez JM, Vizoso FJ

PubMed Article URL: http://dx.doi.org/10.1007/s00432-010-0782-2

MA5-12207 was used in immunohistochemistry to study MMP and TIMP expression during normal human pulmonary development

Human / 1:75

Histopathology (Oct 2005; 47: 410)

"Expression of matrix metalloproteinases and tissue inhibitors of metalloproteinases during normal human pulmonary development."

Author(s): Masamoto K, de Rooij JD, Saito S, Rottier R, Tibboel D, de Krijger RR

PubMed Article URL: http://dx.doi.org/10.1111/j.1365-2559.2005.02228.x

4 Immunocytochemistry References

Species / Dilution

Summary
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.

Human / 1:200

"Expression of matrix metalloproteinases and their inhibitors in different immunohistochemical-based molecular subtypes of breast cancer."
PubMed Article URL:http://dx.doi.org/10.1186/1471-2407-14-959

MA5-12207 was used in Western Blotting to investigate the enhanced anti-proliferative effect of Lactobacillus casei strain Shiota on geniposide actions in human oral squamous carcinoma HSC-3 cells.

Human / 1:200

"Lactobacillus casei 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/molecules20051069

MA5-12207 was used in Immunohistochemistry to analyse the epithelial and stromal expression of matrix metalloproteinase (MMP)-2,-7, MMP-9, MT1-MMP, tissue inhibitor of MMP (TIMP)-1 and TIMP-2 in advanced epithelial ovarian cancers to assess their prognostic value.

Human / Not Cited

"Expression and Clinical Significance of Metalloproteases and Their Inhibitors by Endothelial Cells From Invasive Breast Carcinoma."
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

2 Immunohistochemistry (Paraffin) References

Species / Dilution

Summary

MA512207 was used in immunohistochemistry - paraffin section to investigate the roles of MMP-9 and TIMP-2 in regulating tumor progression in ameloblastomas

Human / Not Cited

"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

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

Human / Not Cited

"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,Daraï E
PubMed Article URL:http://dx.doi.org/10.3892/or.2011.1608

Not Applicable / 1:100

"Expression 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

4 Western Blot References

Species / Dilution

Summary

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

Human / 1:200

"Hypoxia promotes metastasis in human gastric cancer by up-regulating the 67-kDa laminin receptor."
PubMed Article URL:http://dx.doi.org/10.1111/j.1349-7006.2010.01592.x

<table>
<thead>
<tr>
<th>Species</th>
<th>Dilution</th>
<th>Usage</th>
<th>Publication Details</th>
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</table>
| Rat     | 1:1000   | 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 | 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.
"Connective tissue growth factor increases matrix metalloproteinase-2 and suppresses tissue inhibitor of matrix metalloproteinase-2 production by cultured renal interstitial fibroblasts."  
Author(s): Yang M, Huang H, Li J, Huang W, Wang H  
PubMed Article URL: http://dx.doi.org/10.1111/j.1524-475X.2007.00284.x |
| Human   | Not Cited | Study the expression of MMPs and TIMPs in brain arteriovenous malformations | MA5-12207 was used in western blot to study the expression of MMPs and TIMPs in brain arteriovenous malformations.  
Stroke (Apr 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  | Western blot to study the effects of Huangqi decoction on apoptosis, fibrosis, and hepatic inflammation in a rat model of liver fibrosis | 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 (Apr 2012; 12: )  
"Huangqi decoction inhibits apoptosis and fibrosis, but promotes Kupffer cell activation in dimethylnitrosamine-induced rat liver fibrosis."  
PubMed Article URL: http://dx.doi.org/10.1186/1472-6882-12-51 |