Collagen II Monoclonal Antibody (2B1.5)

Catalog Number MA1-37493

**Details**

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<th>Size</th>
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<td>Host/Isotope</td>
<td>Mouse / IgG2a, kappa</td>
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<td>Class</td>
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<td>Type</td>
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<td>Clone</td>
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<tr>
<td>Immunogen</td>
<td>A purified preparation of lathyritic type II collagen from embryonic chicken sternum</td>
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<td>Conjugate</td>
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<td>Form</td>
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<td>Concentration</td>
<td>0.2 mg/mL</td>
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<td>Purification</td>
<td>Protein A</td>
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<td>Storage buffer</td>
<td>PBS, pH 7.4, with 0.2% BSA</td>
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<td>Contains</td>
<td>0.09% sodium azide</td>
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**Species Reactivity**

- **Species reactivity**: Bovine, Chicken, Human, Mouse, Rat
- **Published species**: Rabbit, Rat, Pig, Bovine, Sheep, Human, Mouse, Goat, Not Applicable, Guinea pig

**Tested Applications**

- **Flow Cytometry (Flow)**: Assay-dependent
- **Immunohistochemistry (Paraffin) (IHC (P))**: 1-2 µg/mL
- **Western Blot (WB)**: 1-2 µg/mL

**Published Applications**

- **Immunocytochemistry (ICC/IF)**: See 8 publications below
- **Immunohistochemistry (IHC)**: See 47 publications below
- **Flow Cytometry (Flow)**: See 1 publications below
- **Immunohistochemistry (Frozen) (IHC (F))**: See 1 publications below
- **Western Blot (WB)**: See 5 publications below
- **Immunohistochemistry (Paraffin) (IHC (P))**: See 1 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**

Staining of formalin/paraffin tissues requires digestion of tissue sections with pepsin at 1mg/ml Tris-HCl, pH 2.0 for 15 min at RT or 10 min at 37C.

**Background/Target Information**

COL2A1 is the alpha-1 chain of type II collagen, a fibrillar collagen found in cartilage and the vitreous humor of the eye. Mutations in this gene are associated with achondrogenesis, chondrodysplasia, early onset familial osteoarthritis, SED congenita, Langer-Saldino achondrogenesis, Kniest dysplasia, Stickler syndrome type I, and spondyloepimetaphyseal dysplasia Strudwick type. In addition, defects in processing chondrocalcin, a calcium binding protein that is the C-propeptide of this collagen molecule, are also associated with chondrodysplasia.

Collagen II Antibody (MA1-37493) in IHC (P)

Formalin-fixed, paraffin-embedded human lung stained with Collagen II antibody using peroxidase-conjugate and AEC chromogen. Note staining of matrix in the bronchial cartilaginous plates.
### PubMed References For Collagen II Monoclonal Antibody (2B1.5)

#### 8 Immunocytochemistry References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
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</table>
| **Mouse / 1:100**  | MA5-12789 was used in immunocytochemistry to study the cellular responses of the mouse palate to midpalatal suture expansion forces. | Orthodontics & craniofacial research (Aug 2012; 15: 148)  
"The mouse palate and its cellular responses to midpalatal suture expansion forces."  
Author(s):Katebi N,Kolpakova-Hart E,Lin CY,Olsen BR  
PubMed Article URL:http://dx.doi.org/10.1111/j.1601-6343.2012.01547.x |
| **Rat / 1:100** | MA5-12789 was used in immunocytochemistry to study the fate of transplanted bone marrow-derived mesenchymal stem cells according to transplantation route in a rat model of spinal cord injury | Journal of Korean medical science (Jun 2012; 27: 586)  
"Fate of transplanted bone marrow derived mesenchymal stem cells following spinal cord injury in rats by transplantation routes."  
Author(s):Kang ES,Ha KY,Kim YH  
PubMed Article URL:http://dx.doi.org/10.3346/jkms.2012.27.6.586 |
| **Rat / Not Cited** | MA5-12789 was used in immunocytochemistry to study collagenous matrix assembly in a rat chondrosarcoma cell line | Journal of biomedical materials research. Part A (Jul 2009; 90: 247)  
"Characterization of collagenous matrix assembly in a chondrocyte model system."  
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| **Human / Not Cited** | MA5-12789 was used in immunocytochemistry to study collagenous matrix assembly in a chondrosarcoma cell line | Histochromy and cell biology (Jul 2009; 133: 95)  
"Isolation and in vitro characterisation of dental pulp stem cells from natal teeth."  
Author(s):Karaoz E,Aksoy A,Doan BN,Mammadov D,Aksoy A,Gezen ZS,Yuricer S,Durukus G,Demircan PC,Sariboyaci AE  
PubMed Article URL:http://dx.doi.org/10.1007/s00418-009-0646-5 |
| **Human / 1:200** | MA5-12789 was used in Immunocytochemistry-immunoflourescence to identify the therapeutic contribution of cell-printed constructs towards functional RC regeneration, demonstrating the translational potential of biomimetic gradient constructs for the clinical repair of multi-tissue interfaces. | Bioactive materials (Jan 2023; 19: 611)  
"3D cell-printing of gradient multi-tissue interfaces for rotator cuff regeneration."  
Author(s):Chae S,Yong U,Park W,Choi YM,Jeon IH,Kang H,Jang J,Cho DW  
PubMed Article URL:http://dx.doi.org/10.1016/j.bioactmat.2022.05.004 |
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"Characterization of mesenchymal stem cells from rat bone marrow: ultrastructural properties, differentiation potential and immunohistochemical markers."  
Author(s):Karaoz E,Aksoy A,Ayhan S,Sariboyaci AE,Kaymaz F,Kasap M  
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| **Human / Not Cited** | MA5-12789 was used in immunocytochemistry to study how paracrine and autocrine signals combine to promote full chondrogenic differentiation of a mesoblastic cell line | Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research (Jan 2004; 19: 100)  
"Paracrine and autocrine signals promoting full chondrogenic differentiation of a mesoblastic cell line."  
Author(s):Locker M,Kellermann O,Bouclef M,Khun H,Huerre M,Poliard A  
PubMed Article URL:http://dx.doi.org/10.1359/JBMR.0301206 |
<table>
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<td>Human / 1:1</td>
<td>MA5-12789 was used in immunocytochemistry to study the molecular and ultrastructural properties of human bone marrow-derived mesenchymal stem cells</td>
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<td>Bovine / 1:100</td>
<td>MA5-12789 was used in immunohistochemistry to evaluate a novel scaffolds for cartilage tissue engineering</td>
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<td>MA5-12789 was used in immunohistochemistry to study the differences in tendon-derived stem cells obtained from healthy tendons and those obtained from a rat model of tendinopathy</td>
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<td>MA5-12789 was used in immunohistochemistry to study the role of smooth muscle cell transdifferentiation into chondrocytes in atherosclerotic calcification</td>
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<td>Human / 1:100</td>
<td>MA5-12789 was used in immunohistochemistry to study the role of allogenic mesenchymal stem cell transplantation in improved healing of ischemic colon anastomosis</td>
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<td>Bovine / Not Cited</td>
<td>MA5-12789 was used in immunohistochemistry to develop articular cartilage</td>
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<tr>
<td>Human / Not Cited</td>
<td>MA5-12789 was used in immunohistochemistry to study the microanatomy of the lateral wall of the pituitary fossa</td>
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<tr>
<td>Rat / 1:100</td>
<td>MA5-12789 was used in immunohistochemistry to study chondrocyte phenotype and ectopic mineralization in collagenase-induced model of tendon injury</td>
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<tr>
<td>Human / Not Cited</td>
<td>MA5-12789 was used in immunohistochemistry to investigate the effect of basic fibroblast growth factor on chondrogenesis</td>
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Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, set forth in the Production documentation, specifications and/or accompanying package inserts (“Documentation”). No claim of suitability for use in applications regulated by FDA is made. The warranty, provided herein as a solus only when used by properly trained individual unless otherwise stated in the Documentation, runs for a period of one (1) year from the date of shipment when the Product is subjected to normal, proper and intended usage. This 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.

Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61015 USA
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<td>MA5-12789 was used in immunohistochemistry to study the expression of antigen presenting cell co-stimulatory molecules by pancreatic islet derived stem cells</td>
<td>Transplantation proceedings (Nov 2010; 42: 3663)</td>
<td>&quot;Pancreatic islet derived stem cells can express co-stimulatory molecules of antigen-presenting cells.&quot; Author(s): Karaoz E, Okcu A, Saglam O, Genc ZS, Ayhan S, Kasap M PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.transproceed.2010.07.093">http://dx.doi.org/10.1016/j.transproceed.2010.07.093</a></td>
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<td>MA5-12789 was used in immunohistochemistry to investigate the influence of fetal bovine serum on chondrogenesis in cultured cells</td>
<td>Journal of tissue engineering and regenerative medicine (Jun 2008; 1: 436)</td>
<td>&quot;FBS suppresses TGF-beta1-induced chondrogenesis in synoviocyte pellet cultures while dexamethasone and dynamic stimuli are beneficial.&quot; Author(s): Bilgen B, Crisi S, Aaron RK, Cimbor DM PubMed Article URL: <a href="http://dx.doi.org/10.1002/jtbr.2712">http://dx.doi.org/10.1002/jtbr.2712</a></td>
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<td>MA5-12789 was used in immunohistochemistry to study the effect of chondrocyte cell seeding density in alginate beads on the expression of Sox9</td>
<td>Journal of biomedical materials research. Part A (Dec 2009; 91: 910)</td>
<td>&quot;Sox9 expression of alginate-encapsulated chondrocytes is stimulated by low cell density.&quot; Author(s): Bernstein P, Dong M, Graupner S, Graupher S, Corbeil D, Gelinsky M, Günther KP, Fickert S PubMed Article URL: <a href="http://dx.doi.org/10.1002/jbm.a.32308">http://dx.doi.org/10.1002/jbm.a.32308</a></td>
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<tr>
<td>MA5-12789 was used in immunohistochemistry to research regulation of cartilage development and chondrocyte maturation by CCN1</td>
<td>Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research (Mar 2016; 31: 549)</td>
<td>&quot;CCN1 Regulates Chondrocyte Maturation and Cartilage Development.&quot; Author(s): Zhang Y, Sheu TJ, Hoak D, Shen J, Hilton MJ, Zuscik MJ, Jonason JH, O'Keefe RJ PubMed Article URL: <a href="http://dx.doi.org/10.1002/jbmr.2712">http://dx.doi.org/10.1002/jbmr.2712</a></td>
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<td>MA5-12789 was used in immunohistochemistry to study the effects of reduced heparan sulfate synthesis in human exostosis derived chondrocytes</td>
<td>BMC cell biology (Oct 2008; 9:)</td>
<td>&quot;Donor age and cell passage affects differentiation potential of murine bone marrow-derived stem cells.&quot; Author(s): Kretlow JD, Jin YQ, Liu W, Zhang WJ, Hong TH, Zhou G, Baggett LS, Mikos AG, Cao Y PubMed Article URL: <a href="http://dx.doi.org/10.1186/1471-2121-9-60">http://dx.doi.org/10.1186/1471-2121-9-60</a></td>
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<td>MA5-12789 was used in immunohistochemistry to study how the differentiation potential of murine bone marrow-derived stem cells is affected by donor age and cell passage number</td>
<td>Stem cell research &amp; therapy (Aug 2022; 13:)</td>
<td>&quot;Modeling early changes associated with cartilage trauma using human-cell-laden hydrogel cartilage models.&quot; Author(s): He C, Clark KL, Tan J, Zhou H, Tuan RS, Lin H, Wu S, Alexander PG PubMed Article URL: <a href="http://dx.doi.org/10.1186/s13287-022-03022-8">http://dx.doi.org/10.1186/s13287-022-03022-8</a></td>
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<td>MA5-12789 was used in Immunohistochemistry to study how the differentiation potential of murine bone marrow-derived stem cells is affected by donor age and cell passage number</td>
<td>Stem cell research &amp; therapy (Aug 2022; 13:)</td>
<td>&quot;Modeling early changes associated with cartilage trauma using human-cell-laden hydrogel cartilage models.&quot; Author(s): He C, Clark KL, Tan J, Zhou H, Tuan RS, Lin H, Wu S, Alexander PG PubMed Article URL: <a href="http://dx.doi.org/10.1186/s13287-022-03022-8">http://dx.doi.org/10.1186/s13287-022-03022-8</a></td>
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<td>MA5-12789 was used in immunohistochemistry to study cartilage regeneration by culturing chondrocytes in scaffolds grafted with TATVHL peptide</td>
<td>Colloids and surfaces. B, Interfaces (May 2012; 93: 235)</td>
<td>&quot;Cartilage regeneration by culturing chondrocytes in scaffolds grafted with TATVHL peptide.&quot; Author(s): Kuo YC, Wang CC PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.colsurfb.2012.01.012">http://dx.doi.org/10.1016/j.colsurfb.2012.01.012</a></td>
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MA5-12789 was used in immunohistochemistry to test if mesenchymal stem cells derived from adipose tissue can alleviate azoosperma in rats

Not Applicable / Not Cited
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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 Production documentation, specifications and/or accompanying package inserts (“Documentation”). Any claim of suitability for use in applications regulated by FDA is made. The warranty is limited to repair, replacement of or refund for the non-conforming Product(s) at Seller’s sole option. There is no obligation to repair, replace or refund for Products as the result of (I) accident, disaster or event of force majeure, (II) misuse, fault or negligence of or by Buyer, (III) use of the Products in a manner for which they were not designed, or (IV) improper...
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"RB1-dependent Notch signaling is required for murine articular cartilage and joint maintenance."
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Author(s): Kuo YC, Chung CY

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Annals of biomedical engineering (May 2006; 34: 737)
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Author(s): Romito L, Ameer GA
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MA5-12789 was used in immunohistochemistry to study the molecular mechanism of Ltbp-3-mediated regulation of chondrocyte differentiation

The Journal of endocrinology (Oct 2002; 175: 129)
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PubMed Article URL:http://dx.doi.org/10.1677/joe.0.1750129
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<th>Species</th>
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| Human / Not Cited | MA5-12789 was used in Immunohistochemistry to study cartilage regeneration using heparin-conjugated scaffolds with inverted colloidal crystal pores | Biochimica et biophysica acta. General subjects (Aug 2020; 1864: )

"Marrow vesicle biomimetics harboring Annexin A5 and alkaline phosphatase bind to the native collagen matrix produced by mineralizing vascular smooth muscle cells."

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| Bovine / 1:100 | MA5-12789 was used in Immunohistochemistry to study cartilage regeneration using heparin-conjugated scaffolds with inverted colloidal crystal pores | Colloids and surfaces. B. Biointerfaces (Feb 2011; 82: 616)

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Author(s):Kuo YC, Tsai YT

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Author(s):Hui TY, Cheung KM, Cheung WL, Chan D, Chan BP

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| Rabbit / Not Cited | MA1-37493 was used in Immunohistochemistry to compare CA4+ CECT for cartilage quantification of unfixed and neutral buffered formalin (NBF)-fixed rabbit distal femur cartilage after 8-, 24- and 30-hour contrast agent diffusion. | American journal of translational research (Oct 2021; 13: 8921)

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"Growth defect in Grg5 null mice is associated with reduced Ihh signaling in growth plates."

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Author(s): Kawami NM, Ong CA, Lysaght AC, Haward SJ, McKinley GH, Stankovic KM

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Author(s): Belluccio D, Rowley L, Little CB, Bateman JF

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Author(s): Suwannaloet W, Laupattarakasem W, Sukon P, Ong-Chai S, Laupattarakasem P

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Author(s): Yabe R, Chung SH, Murayama MA, Kubo S, Shimizu K, Akahori Y, Maruhashi T, Seno A, Kaifu T, Sajo S, Ikawarda Y

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Species / Dilution Summary

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Author(s): Shpargel KB, Mangini CL, Xie G, Ge K, Magnuson T

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5 Western Blot References

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