

Product Datasheet

Collagen I alpha 1 Antibody (COL-1) NB600-450

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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NB600-450**Collagen I alpha 1 Antibody (COL-1)**

Product Information	
Unit Size	0.1 ml
Concentration	This product is unpurified. The exact concentration of antibody is not quantifiable.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	COL-1
Preservative	15mM Sodium Azide
Isotype	IgG1
Purity	Unpurified
Buffer	Ascites
Target Molecular Weight	139 kDa

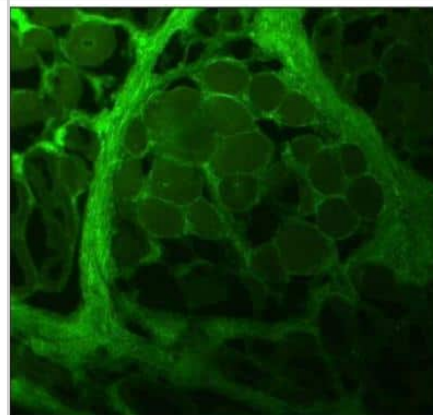
Product Description	
Description	Novus Biologicals Mouse Collagen I alpha 1 Antibody (COL-1) (NB600-450) is a monoclonal antibody validated for use in IHC, WB, ELISA and ICC/IF. Anti-Collagen I alpha 1 Antibody: Cited in 63 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Mouse
Gene ID	1277
Gene Symbol	COL1A1
Species	Human, Mouse, Rat, Porcine, Bovine, Equine, Feline, Mammal, Rabbit
Reactivity Notes	Reported reactivity in deer. Mouse reactivity reported in scientific literature (PMID: 25287675). Goat reactivity reported by customer review. Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Mouse-On-Mouse blocking reagent may be needed for IHC and ICC experiments to reduce high background signal. You can find these reagents under catalog numbers PK-2200-NB and MP-2400-NB. Please contact Technical Support if you have any questions. Feline reactivity reported in scientific literature (PMID:33091431).
Specificity/Sensitivity	This Collagen I alpha 1 antibody (COL-1) recognizes the native (helical) form of collagen type I using ELISA and dot-blot. It does not react with the thermally-denatured molecule, and shows no cross-reactivity with collagen types II, III, IV, V, VI, VII, IX, X and XI.
Immunogen	This Collagen I alpha 1 antibody (COL-1) was raised against full length bovine native protein (purified).

Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Dot Blot, ELISA, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen
Recommended Dilutions	Western Blot 1:100-1:2000, ELISA 1:100-1:2000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry-Paraffin 1:10-1:500, Immunohistochemistry-Frozen 1:2000, Dot Blot 1:100-1:2000



Images

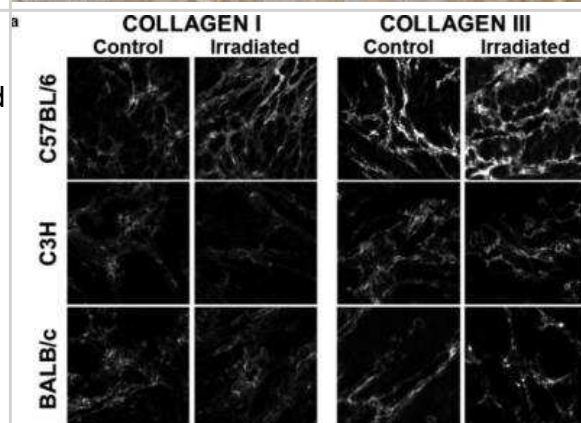
Immunohistochemistry-Frozen: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Staining of acetone-fixed, frozen sections of pig tongue at a dilution of 1:4000



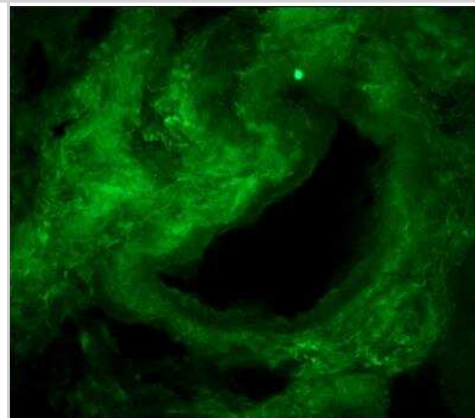
Immunohistochemistry: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Analysis of an FFPE ligament section. Enzymatic antigen retrieval and blocking using 1% BSA for 30 min at 20C was performed. Sample was incubated for 1 hour with primary antibody at a dilution of 1:400 at 20C.



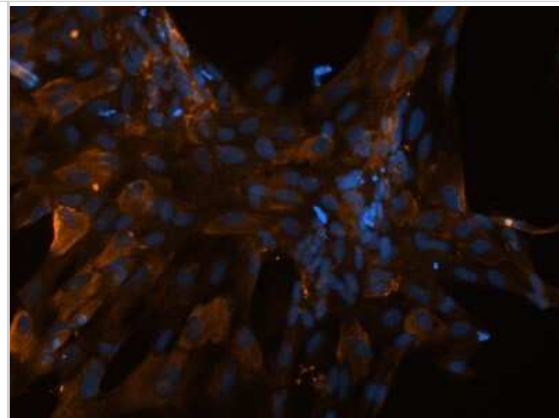
Immunocytochemistry/Immunofluorescence: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Collagen I and collagen III accumulate in C57BL/6 mice in response to radiation. Bladder strips from irradiated and control mice were stained for collagen I or for collagen III (NB600-594, RRID:AB_10001330) and imaged using fluorescent microscopy. Representative images (100 x 100 um) of each mouse strain and treatment group are provided for collagen I and collagen III immunofluorescence. Image collected and cropped by CiteAb from the following publication (www.onlinelibrary.wiley.com/doi/abs/10.14814/phy2.14377) licensed under a CC-BY license.



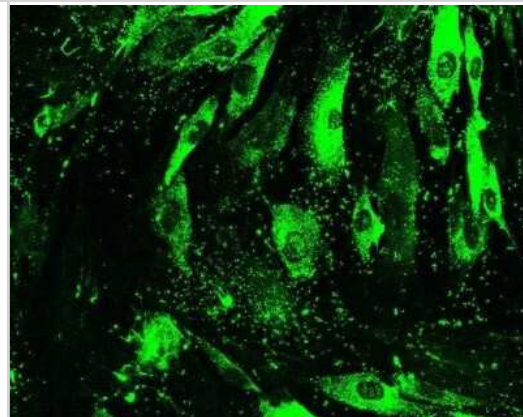
Immunohistochemistry: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Staining of acetone-fixed, frozen sections of human tongue at a dilution of 1:2000.



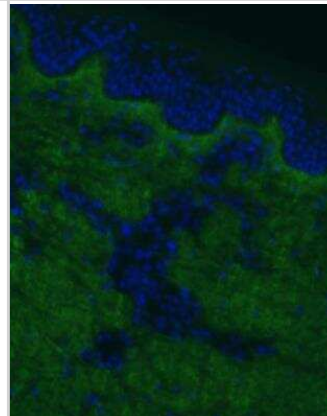
Immunocytochemistry/Immunofluorescence: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Analysis of Collagen I alpha 1 in 4% PFA fixed equine tenocytes using anti-Collagen I alpha 1 antibody. ICC/IF image submitted by a verified customer review.



Immunocytochemistry/Immunofluorescence: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Collagen I alpha1 labeled pig trabecular meshwork cells indirectly visualized with Alexa Fluor 488 conjugated secondary antibody. ICC/IF image submitted by a verified customer review.



Immunohistochemistry: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Analysis of formalin fixed frozen porcine skin tissue sections. Blocking: 5% serum for 1 hr at 20C. Sample was incubated for 16 hours at 4C and used at a dilution of 1:500.

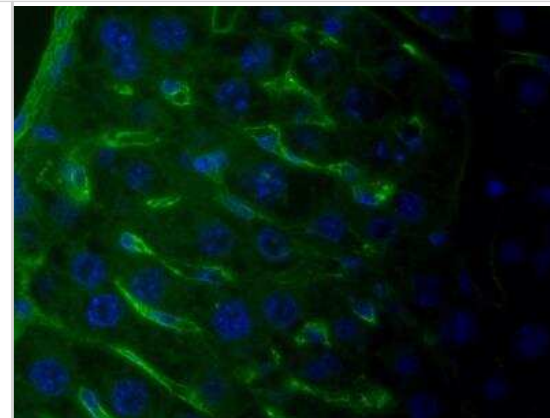


Immunohistochemistry: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Immunohistochemistry for type I collagen in keloid (20x). Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/28638180/>) licensed under a CC-BY license.

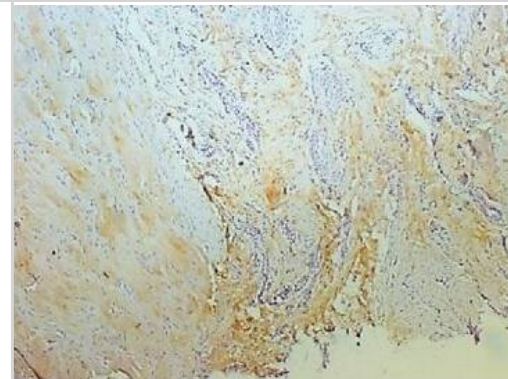


(c)

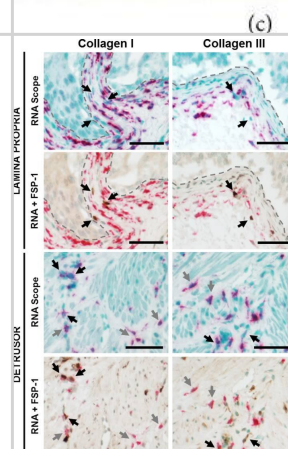
Immunohistochemistry-Paraffin: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - Mouse healthy liver. Antibody at 1:200. Enzymatic/proteolytic antigen retrieval. No permeabilization. IHC-P image submitted by a verified customer review.



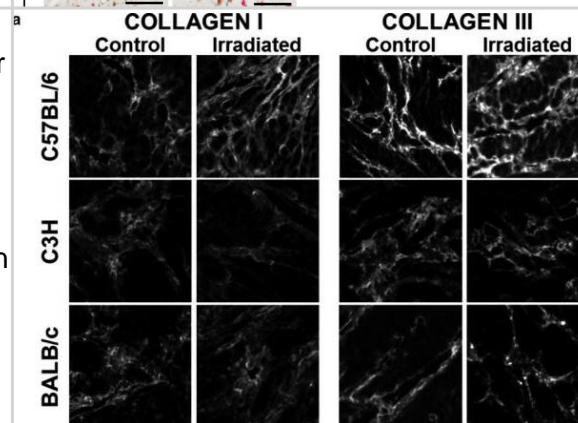
(a) Histological section of keloid stained with picosirius seen in ordinary light (20x). (b) Histological section of keloid stained with picosirius seen in polarized light (20x). (c) Immunohistochemistry for type I collagen in keloid (20x). (d) Histological section of keloid stained with picosirius seen in ordinary light (20x). (e) Histological section of keloid stained with picosirius seen in polarized light (20x). (f) Immunohistochemistry for type III collagen in keloid (20x).



Immunohistochemistry: Collagen I alpha 1 Antibody (COL-1) [NB600-450] - FSP1-positive cells only partially responsible for collagen I & III production in irradiated bladders. Bladder strips from irradiated mice were costained for collagen I or for collagen III mRNA (pink) & for fibroblasts (FSP1, brown). U: urothelium; LP: lamina propria. Black arrow: FSP1 positive cells. Gray arrow: collagen only positive cells. Scale bar = 50 μ m Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32109348>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Collagen I and collagen III accumulate in C57BL/6 mice in response to radiation. Bladder strips from irradiated and control mice were stained for collagen I or for collagen III and imaged using fluorescent microscopy. (a) Representative images (100 x 100 μ m) of each mouse strain and treatment group are provided for collagen I and collagen III immunofluorescence. (b–c) Percentage of tissue positive for collagen I or collagen III staining. Collagen I and III density is significantly elevated in C57BL/6 mice, but not in the C3H or BALB/c strains. Results are mean \pm SD of n = 3–6 mice. Dashed line: ANOVA; Full line: multiple t test. **p < .01, *** p < .001 Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/32109348>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Roh, K;Li, H;Freeman, RN;Zazzeron, L;Lee, A;Zhou, C;Shen, S;Xia, P;Guerra, JRB;Sheffield, C;Padera, TP;Zhou, Y;Kim, S;Aguirre, A;Houstis, N;Roh, JD;Ichinose, F;Malhotra, R;Rosenzweig, A;Rhee, J; Exercise-Induced Cardiac Lymphatic Remodeling Mitigates Inflammation in the Aging Heart Aging cell 2025-03-13 [PMID: 40083143]

Huang L, Lu W, Wu R et al. Interferon-driven CAF reprogramming augments immunogenic response to neoadjuvant radiotherapy in colorectal cancer. Cell Reports Medicine 2025-07-23 [PMID: 40730191]

Kim K, Padalhin A, Ryu H et al. The Interplay of Angiogenesis and Osteogenesis in Non-Stabilized Incomplete Tibial Fractures: A Temporal Study in Rats. Journal of orthopaedic research : official publication of the Orthopaedic Research Society 2025-06-20 [PMID: 40538272]

Kartasheva-Ebertz D, Gaston J, Lair-Mehiri L et al. Adult human liver slice cultures: Modelling of liver fibrosis and evaluation of new anti-fibrotic drugs World Journal of Hepatology 2021-02-27 [PMID: 33708350] (Immunohistochemistry, Human)

H Lena, G David, K Johann, J Yvonne, Z Frank G, H Daniela, B Roman, B Rolf E, R Nicole In situ regeneration of nasal septal defects using acellular cartilage enhanced with platelet-derived growth factor Journal of tissue engineering, 2022-09-20;13(0):2041731422111. 2022-09-20 [PMID: 36158899] (Immunohistochemistry, Human)

Ramani K, Mavila N, Abeynayake A et al. Targeting A-kinase anchoring protein 12 phosphorylation in hepatic stellate cells regulates liver injury and fibrosis in mouse models eLife 2022-10-04 [PMID: 36193675] (Immunohistochemistry, Human)

Yang C, Zhu C, Li Y et al. Injectable selenium-containing polymeric hydrogel formulation for effective treatment of myocardial infarction Frontiers in Bioengineering and Biotechnology 2022-07-11 [PMID: 36032710] (Immunohistochemistry, Human)

Kuzan A, Wisniewski J, Maksymowicz K et al. Relationship between calcification, atherosclerosis and matrix proteins in the human aorta Folia Histochemica et Cytobiologica 2021-03-31 [PMID: 33560515] (Immunohistochemistry, Human)

Liu J, Wang X, Lu G et Al. Bionic cartilage acellular matrix microspheres as a scaffold for engineering cartilage J Mater Chem B 2020-07-22 [PMID: 32254797]

Li H, Zhu X, Cao X et Al. Single-cell analysis reveals lysyl oxidase (Lox)(+) fibroblast subset involved in cardiac fibrosis of diabetic mice J Adv Res 2023-01-24 [PMID: 36706988]

Zahra Shabani, Joana Schuerger, Xiaonan Zhu, Chaoliang Tang, Li Ma, Alka Yadav, Rich Liang, Kelly Press, Shantel Weinsheimer, Annika Schmidt, Calvin Wang, Abinav Sekhar, Jeffrey Nelson, Helen Kim, Hua Su Increased Collagen I/Collagen III Ratio Is Associated with Hemorrhage in Brain Arteriovenous Malformations in Human and Mouse. Cells 2024-01-12 [PMID: 38201296]

Yusuke Shigeta, Tarek Saleh, Giada Benedetti, Lorenzo Caciolli, Jinke Chang, Elisa Zambaiti, Lei Wu, Sahira Khalaf, Wulei Song, Alessandro Filippo Pellegata, Giovanni Giuseppe Giobbe, Paolo De Coppi Stomach engineering: region-specific characterization of the decellularized porcine stomach. Pediatric surgery international 2023-12-01 [PMID: 38032517]

More publications at <http://www.novusbio.com/NB600-450>

Procedures

Immunohistochemistry Protocol for Collagen I Antibody (NB600-450)

Sample

Human Tissue sections (Normal Skin and Basal Cell Carcinoma/Solar Elastosis)

Application

Immunohistochemistry (Formalin-fixed paraffin-embedded sections)

Blocking step:

None

Antigen retrieval step:

Heat mediated

Incubation time:

30 minute(s)

Dilution: 1/800

Additional notes

The tissue was FFPE (formalin fixed, paraffin embedded tissue sectioned at 3-4 microns). The antigen retrieval method was a heat-induced antigen retrieval (HEIR) using a vegetable steamer. Sections were incubated in the steamer for 20 minutes in 1 mM EDTA buffer, pH 8.0. Sections were then rinsed in H₂O and TBS buffer prior to starting the staining protocol.

The staining appeared to be very specific and robust, with very little to no non-specific background staining.

Staining Summary & Notes:

1mM EDTA Buffer, pH 8.0, HIER for 20 minutes in steamer

Rinse with TBS containing 0.05% Tween 20

10 minute blocking in 3% Peroxide

Rinse with TBS containing 0.05% Tween 20

30 minutes in Primary Antibody @ RT

Rinse with TBS containing 0.05% Tween 20

30 minutes in Secondary Antibody @ RT

Rinse with TBS containing 0.05% Tween 20

10 minutes in DAB+ (DakoCytomation) @ RT

Water Rinse

Counterstain for 6 minutes in Mayer's Hematoxylin (DakoCytomation) @ RT

Secondary antibody

Name:

DakoCytomation Envision+ Anti-Mouse/HRP (RTU)

Conjugation: HRP

Dilution: 1/1





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Products Related to NB600-450

NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB7539	Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP]
NBP1-97005-0.5mg	Mouse IgG1 Isotype Control (MG1)

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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