

# Product Datasheet

## Collagen I alpha 1 Antibody - Azide and BSA Free NBP1-30054

Unit Size: 0.1 ml

Store at -20C. Avoid freeze-thaw cycles.

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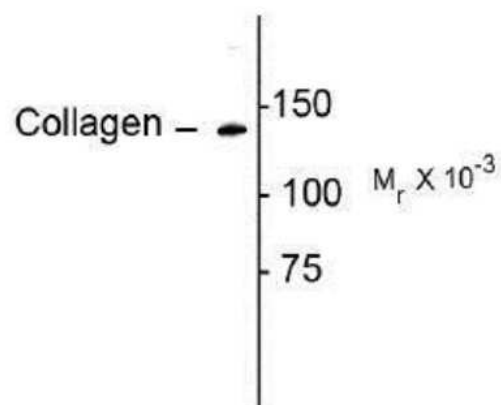
**NBP1-30054**

Collagen I alpha 1 Antibody - Azide and BSA Free

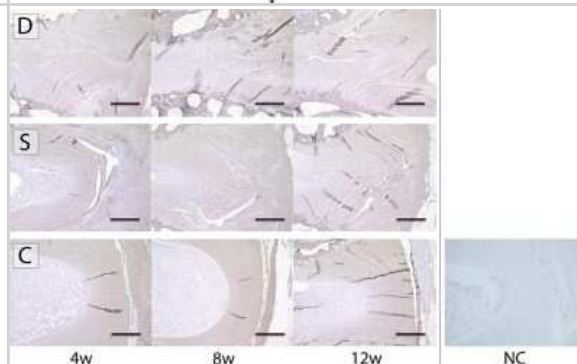
Product Information	
Unit Size	0.1 ml
Concentration	Please see the vial label for concentration. If unlisted please contact technical services.
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	No Preservative
Isotype	IgG
Purity	Antigen Affinity-purified
Buffer	PBS
Target Molecular Weight	140 kDa
Product Description	
Description	Recommended that the undiluted antibody be aliquoted into smaller working volumes (10-30 uL/vial depending on usage).
Host	Rabbit
Gene ID	1277
Gene Symbol	COL1A1
Species	Human, Mouse, Rat, Amphibian, Avian, Mammal, Sheep
Reactivity Notes	Based on the homology of the immunogen, this antibody is expected to recognize the collagen I alpha1 polypeptide in all mammals, birds, and amphibians.
Specificity/Sensitivity	This Collagen I alpha 1 antibody is specific for the ~ 140 kDa telopeptide portion of the collagen I alpha 1 polypeptide. The antibody works well for immunohistochemistry on paraformaldehyde-fixed sections with a simple antigen-retrieval protocol (incubate slides for 20 minutes at 90 degrees C in 10 mM sodium citrate (pH 6.0)/ 0.1 % Tween-20). Note that in paraffin sections of formaldehydefixed fibrotic mouse lung tissue, the antibody recognizes mature collagen I that has formed fibrils in the extracellular matrix.
Immunogen	This Collagen I alpha 1 antibody was raised against synthetic peptide corresponding to amino acid residues within the C-terminal telo peptide portion (aa1193-1218) of the human COL1A1, conjugated to KLH. Accession # P02452
Product Application Details	
Applications	Western Blot, Simple Western, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:1000, Simple Western 1:100, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry-Paraffin 1:100, Immunohistochemistry-Frozen 1:10-1:500
Application Notes	Use in Immunohistochemistry-Frozen sections was reported in the scientific literature (PMID: 21939397), IHC reactivity reported in scientific literature (PMID: 26045736). Use in Immunocytochemistry/immunofluorescence reported in scientific literature (PMID: 26651081).  In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. Separated by Size-Wes, Sally Sue/Peggy Sue.

## Images

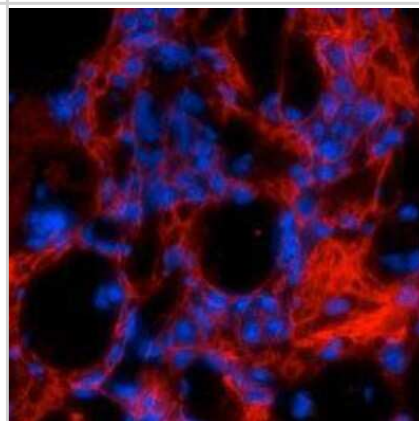
Western Blot: Collagen I alpha 1 Antibody - Azide and BSA Free [NBP1-30054] - Collagen I Antibody [NBP1-30054] - Rat lung lysate showing specific immunolabeling of the collagen protein with an observed molecular weight ~140.



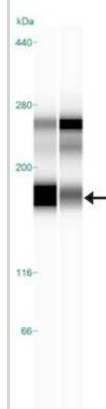
Immunohistochemistry: Collagen I alpha 1 Antibody - Azide and BSA Free [NBP1-30054] - Immunohistochemical staining targeting Collagen I alpha 1 revealed severe disorganization of the annulus fibrosus (AF), and a decrease in staining intensity for group D. On the contrary, the arcshaped and layered AF structure with immunoreactivity for type I collagen staining were mostly maintained in group S when compared to group C. Presented images show the AF at site of surgery, defect, and transplant. Abbreviations: D: AF defect only group, S: AF defect treated with sheet transplantation group, C: sham group, NC: negative control of sample stained without primary antibody (scale bar=300um). Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31463464/>) licensed under a CC-BY license.



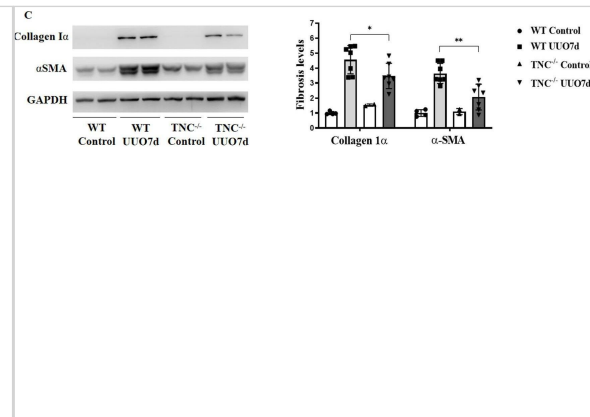
Immunohistochemistry: Collagen I alpha 1 Antibody - Azide and BSA Free [NBP1-30054] - Collagen I Antibody [NBP1-30054] - Formaldehyde-fixed fibrotic mouse lung tissue. The antibody recognizes mature collagen I (red) that has formed fibrils in the extracellular matrix.



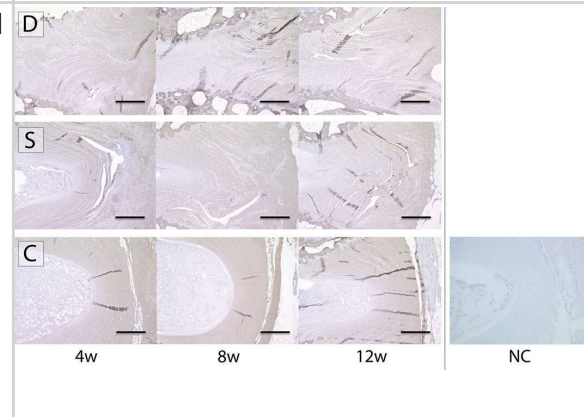
Simple Western: Collagen I alpha 1 Antibody - Azide and BSA Free [NBP1-30054] - Simple Western lane view shows a specific band for Collagen I Alpha 1 in 0.5 mg/ml of Human Lung (left) and Human Kidney (right) lysate. This experiment was performed under reducing conditions using the 66-440 kDa separation system. \* Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody



TNC deficiency reduced kidney fibrosis in animal models. D) Western blot showed that the proteins of collagen I $\alpha$  and  $\alpha$ -SMA were also significantly reduced in TNC<sup>-/-</sup> mice at UJO day 7 (C, n = 7, p < 0.05). Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/36522320>), licensed under a CC-BY licence.



Immunohistochemistry staining for type I collagen. Immunohistochemical staining targeting type I collagen revealed severe disorganization of the annulus fibrosus (AF), and a decrease in staining intensity for group D. On the contrary, the arc-shaped and layered AF structure with immunoreactivity for type I collagen staining were mostly maintained in group S when compared to group C. Presented images show the AF at site of surgery, defect, and transplant. Abbreviations: D: AF defect only group, S: AF defect treated with sheet transplantation group, C: sham group, NC: negative control of sample stained without primary antibody (scale bar = 300  $\mu$ m) Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31463464>), licensed under a CC-BY licence.



## Publications

Livingston MJ, Zhang M, Kwon SH et al. Autophagy activates EGR1 via MAPK/ERK to induce FGF2 in renal tubular cells for fibroblast activation and fibrosis during maladaptive kidney repair *Autophagy* 2023-11-18 [PMID: 37978868] (WB)

Bitterli T, Schmid D, Ettinger L et al. Targeted screening of inflammatory mediators in spontaneous degenerative disc disease in dogs reveals an upregulation of the tumor necrosis superfamily *JOR SPINE* 2023-11-23 [PMID: 38222814] (WB, Canine)

Wang Q, Goracci C, Sundar IK, Rahman I Environmental tobacco smoke exposure exaggerates bleomycin- induced collagen overexpression during pulmonary fibrogenesis *Research square* 2023-10-10 [PMID: 37886473] (WB, IHC, Mouse)

Huang SS, Liu R, Chang S et al. Gut Microbiota-Derived Tryptophan Metabolite Indole-3-aldehyde Ameliorates Aortic Dissection *Nutrients* 2023-09-26 [PMID: 37836434] (IHC, Mouse)

Lee C, Pratap K, Zhang L et al. Inhibition of Wnt/ $\beta$ -catenin signaling reduces renal fibrosis in murine glycogen storage disease type Ia *Biochimica et biophysica acta. Molecular basis of disease* 2023-09-04 [PMID: 37666439] (IHC-P, Mouse)

Olmsted ZT, Paluh JL. A combined human gastruloid model of cardiogenesis and neurogenesis *iScience* 2022-06-17 [PMID: 35721464]

Zhuang R, Chen J, Cheng HS et al. Perivascular Fibrosis Is Mediated by a KLF10-IL-9 Signaling Axis in CD4+ T Cells *Circulation Research* 2022-05-27 [PMID: 35440172] (FLOW, IHC, B/N)

Chiang YP, Li Z, He M et al. Sphingomyelin synthase-related protein SMSr is a phosphatidylethanolamine phospholipase C that promotes nonalcoholic fatty liver disease *Journal of Biological Chemistry* 2023-08-14 [PMID: 37586586] (WB)

Palladini G, Cagna M, Di Pasqua LG et al. Obeticholic Acid Reduces Kidney Matrix Metalloproteinase Activation Following Partial Hepatic Ischemia/Reperfusion Injury in Rats *Pharmaceuticals (Basel)* 2022-04-24 [PMID: 35631351] (WB)

Xie Q, Zhang M, Mao X et al. Matrix protein Tenascin-C promotes kidney fibrosis via STAT3 activation in response to tubular injury *Cell Death & Disease* 2022-12-15 [PMID: 36522320] (B/N, WB)

Tiskratok W, Yamada M, Watanabe J et al. Substrate stiffness controls proinflammatory responses in human gingival fibroblasts *Scientific Reports* 2023-01-24 [PMID: 36693942]

Yamanaka Y, Tajima T, Tsujimura Y et al. Adiponectin inhibits fibrosis of the palmar aponeurosis in Dupuytren's contracture in male patients *Bone & Joint Research* 2023-08-04 [PMID: 37536684] (Simple Western)

More publications at <http://www.novusbio.com/NBP1-30054>



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### **Products Related to NBP1-30054**

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HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NBP1-77457PEP	Collagen I alpha 1 Antibody Blocking Peptide

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### **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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