Product Datasheet

Collagen III alpha 1/COL3A1 Antibody
NB600-594

Unit Size: 0.1 mg

Store at 4°C short term. For extended storage, add an equal volume of glycerol, aliquot and store at -20°C or below. Avoid repeated freeze-thaw cycles.

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Updated 6/15/2023 v.20.1

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NB600-594
Collagen III alpha 1/COL3A1 Antibody

**Product Information**

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Unit Size</strong></td>
<td>0.1 mg</td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>Please see the vial label for concentration. If unlisted please contact technical services.</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Store at 4C short term. For extended storage, add an equal volume of glycerol, aliquot and store at -20C or below. Avoid repeated freeze-thaw cycles.</td>
</tr>
<tr>
<td><strong>Clonality</strong></td>
<td>Polyclonal</td>
</tr>
<tr>
<td><strong>Preservative</strong></td>
<td>0.01% Sodium Azide</td>
</tr>
<tr>
<td><strong>Isotype</strong></td>
<td>IgG</td>
</tr>
<tr>
<td><strong>Purity</strong></td>
<td>Immunogen affinity purified</td>
</tr>
<tr>
<td><strong>Buffer</strong></td>
<td>0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2</td>
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**Product Description**

**Description**

This antibody has been prepared by immunoaffinity chromatography using immobilized antigens followed by extensive cross-adsorption against other collagens, human serum proteins and non-collagen extracellular matrix proteins to remove any unwanted specificities. Some class-specific anti-collagens may be specific for three-dimensional epitopes which may result in diminished reactivity with denatured collagen or formalin-fixed, paraffin embedded tissues.

Store vial at 4C prior to opening. This product is stable at 4C as an undiluted liquid. Dilute only prior to immediate use. For extended storage, mix with an equal volume of glycerol, aliquot contents and freeze at -20C or below. Avoid cycles of freezing and thawing.

**Host**

Rabbit

**Gene ID**

1281

**Gene Symbol**

COL3A1

**Species**

Human, Mouse, Rat, Bovine, Feline, Sheep

**Reactivity Notes**

This antibody reacts with most mammalian Collagen III alpha 1/COL3A1 and has expected cross-reactivity with Type I and negligible cross reactivity with Type II, IV, V or VI collagens. Use in Sheep reported in scientific literature (PMID:34451177). Mouse reactivity reported in multiple pieces of scientific literature. Rat reactivity reported in scientific literature (PMID:23370982). Feline reactivity reported in scientific literature (PMID: 33091431).

**Specificity/Sensitivity**

Some class-specific anti-collagens may be specific for three-dimensional epitopes which may result in diminished reactivity with denatured collagen or formalin-fixed, paraffin embedded tissues. This antibody reacts with most mammalian Collagen III alpha 1/COL3A1 and has expected cross-reactivity with Type I and negligible cross reactivity with Type II, IV, V or VI collagens. Non-specific cross-reaction of anti-collagen antibodies with other human serum proteins or non-collagen extracellular matrix proteins has not been tested.

**Immunogen**

Collagen III alpha 1/COL3A1 from human and bovine placenta (Uniprot: P02461)
Notes
This antibody has been prepared by immunoaffinity chromatography using immobilized antigens followed by extensive cross-adsorption against other collagens, human serum proteins and non-collagen extracellular matrix proteins to remove any unwanted specificities. Some class-specific anti-collagens may be specific for three-dimensional epitopes which may result in diminished reactivity with denatured collagen or formalin-fixed, paraffin embedded tissues.

Store vial at 4C prior to opening. This product is stable at 4C as an undiluted liquid. Dilute only prior to immediate use. For extended storage, mix with an equal volume of glycerol, aliquot contents and freeze at -20C or below. Avoid cycles of freezing and thawing.

Product Application Details

Applications
Western Blot, Simple Western, ELISA, Flow Cytometry, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation

Recommended Dilutions
Western Blot 1:1000-1:10000, Simple Western, Flow Cytometry, ELISA 1:5000-1:50000, Immunocytochemistry/Immunofluorescence 1:10 - 1:500, Immunoprecipitation 1:100, Immunohistochemistry-Paraffin 1:50 - 1:200

Application Notes
This product has been tested by dot Blot, western blot, and IHC and is useful for indirect trapping ELISA for quantitation of antigen in serum using a standard curve, immunoprecipitation, native (non-denaturing, non-dissociating) PAGE, immunohistochemistry, and western blotting for highly sensitive qualitative analysis.

Simple Western reported by an internal validation. Separated by Size-All, antibody dilution of 1:50. Apparent MW in kDa on Simple Western was 139 kDa; matrix was 12-230 kDa.

Images
Immunohistochemistry: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Tissue: right lobe of the liver section. A:Central Vein (CV) fibrosis, B: Non-fibrotic CV, C: Perisinusodial fibrosis, D: Non-fibrotic area, E: Protat tract fibrosis, F: Septal fibrosis (arrow). Fixation: FFPE. Antigen retrieval: not required. Primary antibody: Anti-collagen type I at 1:500 for 4 degrees Celsius for 24hr. Secondary antibody: Peroxidase biotin-streptavidin rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: Anti-collagen type III is intra and extracellular. Staining: 3,3'-diaminobenzidine tetrahydrochloride was used as the chromogen. Nuclei were counterstained purple with hematoxylin.

Western Blot: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Lane 1: Human Collagen III Load: 100 ng per lane Primary antibody: Collagen III Antibody at 1:1000 o/n at 4C Secondary antibody: DyLight 649 Goat anti-rabbit at 1:20,000 for 30 min at RT Block: incubated with blocking buffer for 30 min at RT Predicted/Observed size: 138 kDa/138 kDa.
Immunocytochemistry/Immunofluorescence: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Human primary ventricular cardiac fibroblasts were stained with anti-Collagen III antibody. Cells were cultured for 3 days in DMEM with 10% fetal calf serum. ICC/IF image submitted by a verified customer review.

Immunohistochemistry: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Staining in FFPE sections of human skin (left, dermis) with moderate to strong red staining and testis (right) where strong staining was observed within connective tissue between seminiferous tubules. The antibody showed strong extracellular staining within connective tissues across many organs with minimal background staining. Slides were steamed in 0.01 M sodium citrate buffer, pH 6.0 at 99-100C. 20 minutes for antigen retrieval.

Western Blot: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Immunodetection of ID3, COL1A2 and COL3A1 in human dermal fibroblasts subjected to treatment with or without cANGPTL4 (12 ug/mL) in the presence of TGFB1 (10 ng/mL). B-tubulin, as loading control, was from the same samples. Image collected and cropped by CiteAb from the following publication (www.nature.com/articles/s41598-017-05869-x) licensed under a CC-BY license.

Immunohistochemistry: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Livers were harvested at 9 wpi, formalin-fixed, and then cryosectioned and stained for markers of inflammation and liver fibrosis. Maximum intensity projections of 12-17 um thick liver sections with immunofluorescently labeled nuclei (DAPI white) alpha-smooth muscle actin NBP2-34760APC (yellow), CD45 (red) and Collagen I NB600-408 (top) or Collagen III/COL3A1 NB600-594 (bottom) (blue) in the liver of uninfected or 9 wpi WT mice. Scale bars represent 50 um. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/32973293/) licensed under a CC-BY license.
Western Blot: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Western blot for COL3A1 protein with PVDF protein staining to control for protein loading. Image collected and cropped by CiteAb from the following publication (mdpi.com/2076-3921/6/4/87), licensed under a CC-BY license.


Immunohistochemistry-Paraffin: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Human lung tissue.

Immunohistochemistry-Paraffin: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Human lung tissue
Immunohistochemistry: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - Collagen III (k, positive staining indicated by arrows) immunohistochemistry staining in 13 weeks old male offspring. Left panel = Sham, Middle panel = SE (cigarette smoke exposure), Right panel = SE+MQ (SE with MitoQ supplementation) bar = 50 um. Image collected and cropped by CiteAb from the following publication (mdpi.com/2072-6643/11/7/1669) licensed under a CC-BY license.

Immunohistochemistry: Collagen III alpha 1/COL3A1 Antibody [NB600-594] - 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 um) of each mouse strain and treatment group are provided for collagen I and collagen III immunofluorescence. Collagen I antibody (NB600-450, RRID:AB_522923) and Collagen III antibody (NB600-594, RRID:AB_10001330). Image collected and cropped by CiteAb from the following publication (onlinelibrary.wiley.com/doi/abs/10.14814/phy2.14377) licensed under a CC-BY license.

anti collagen III antibody ( Lot 26016, 1:400, 45 min RT) showed strong staining in FFPE sections of human skin(left, dermis) with moderate to strong red staining and testis (right) where strong staining was observed within connective tissue between seminiferous tubules. The antibody showed strong extracellular staining within connective tissues across many organs with minimal background staining. Slides were steamed in 0.01 M sodium citrate buffer, pH 6.0 at 99-100C - 20 minutes for antigen retrieval. Images provided courtesy of LifeSpan Biosciences, Seattle, WA

Immunohistochemistry of Rabbit Anti-collagen type III antibody. Tissue: right lobe of the liver section. A:Central Vein (CV) fibrosis, B: Non-fibrotic CV, C: Perisinusodial fibrosis, D: Non-fibrotic area, E: Protat tract fibrosis, F: Septal fibrosis (arrow). Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: Anti-collagen type III at 1:500 for 4C for 24hr. Secondary antibody: Peroxidase biotin-streptavidin rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: Anti-collagen type III is intra and extracellular. Staining: 3,3’-diaminobenzidine tetrahydrochloride was used as the chromogen. Nuclei were counterstained purple with hematoxylin.
Immunohistochemistry of Rabbit Collagen III alpha 1/COL3A1 Antibody. Tissue: FFPE normal human spleen tissues (10X). Antigen Retrieval: 0.01 M sodium citrate buffer for 20 minutes. Primary Antibody: Anti-Collagen Type III at 5uL/mL for 45 mins at RT. Staining: Anti-Rabbit biotinylated secondary antibody for 30 min at RT. Alkaline phosphatase streptavidin for 30 min at RT. Alkaline phosphatase chromogen substrate for 30 min at RT. The stained slides were evaluated by a pathologist to confirm staining specificity.

Publications

Lam Y, Chan C, Geng L et al. APLNR marks a cardiac progenitor derived with human induced pluripotent stem cells bioRxiv 2023-02-23 (ICC/IF, ICC/IF)


Antonova LV, Krivkina EO, Sevostianova VV Et al. Tissue-Engineered Carotid Artery Interposition Grafts Demonstrate High Primary Patency and Promote Vascular Tissue Regeneration in the Ovine Model Polymers 2021-08-08 [PMID: 34451177] (IF/IHC, Sheep)

Mahapatra S Secretion of Cardioprotective Factors from Cardiac Inducing Colonies (Cics) Derived from Germline Pluripotent Stem Cells (Hgpscs) to Combat Myocardial Fibrosis Thesis 1905-07-13


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.

For more information on our 100% guarantee, please visit www.novusbio.com/guarantee

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