Product Datasheet

Collagen I Antibody
NB600-408-0.1mg

Unit Size: 0.1 mg

Store at -20 °C.

Reviews: 14  Publications: 158

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Updated 2/25/2020 v.20.1

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**NB600-408-0.1mg**  
Collagen I Antibody

### Product Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Size</td>
<td>0.1 mg</td>
</tr>
<tr>
<td>Concentration</td>
<td>1.0 mg/ml</td>
</tr>
<tr>
<td>Storage</td>
<td>Store at -20 °C.</td>
</tr>
<tr>
<td>Clonality</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Preservative</td>
<td>0.01% Sodium Azide</td>
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<tr>
<td>Isotype</td>
<td>IgG</td>
</tr>
<tr>
<td>Purity</td>
<td>Immunogen affinity purified</td>
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<tr>
<td>Buffer</td>
<td>0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2</td>
</tr>
<tr>
<td>Target Molecular Weight</td>
<td>139 kDa</td>
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</tbody>
</table>

### Product Description

**Description**
Collagens are highly conserved throughout evolution and are characterized by an uninterrupted "Glycine-X-Y" triplet repeat that is a necessary part of the triple helical structure. For these reasons, it is often extremely difficult to generate antibodies with specificities to collagens. The development of 'type' specific antibodies is dependent on NON-DENATURED three-dimensional epitopes. This preparation results in a native conformation of the protein. Greatly diminished reactivity and selectivity of these antibodies will result if denaturing and reducing conditions are used for SDS-PAGE and immunoblotting. Type-I collagen is the predominant form of collagen in the human body and plays a role in scar tissue formation. Collagen type 1 is also an important component of tendons and found in most connective tissues including cartilage. Collagen 1 is associated with several diseases including: Ehlers Danlos syndrome (arthrochalasia), Ehlers-Danlos syndrome (classical type), Osteogenesis imperfecta type 1-4 and osteoporosis.

**Host**
Rabbit

**Species**
Human, Mouse, Rat, Porcine, Bovine, Feline, Rabbit

**Reactivity Notes**
Expected to react with most mammalian Type I collagens. Porcine reactivity reported in scientific literature (PMID: 21688145). Rabbit reactivity reported in scientific literature (PMID: 27663536).

**Specificity/Sensitivity**
Typically less than 1% cross-reactivity against other types of collagens was detected by ELISA against purified standards. 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 Type I collagens and has negligible cross-reactivity with Type II, III, IV, V or VI collagens. Non-specific cross-reaction of anti-collagen antibodies with other human serum proteins or non-collagen extracellular matrix proteins is negligible.

**Immunogen**
Collagen I from human and bovine placenta. Uniprot ID P02452

**Notes**
Collagen type I consists of alpha-1 (139 kDa) and alpha-2 chains (129kDa). Since collagen type I is a triple helix consisting of one alpha-2 chain and two alpha-1 chains, one can expect bands of the dimeric (~270 kDa) and the trimeric form (~400 kDa). Remember that those chains are cross-linked and can't be broken by typical sample denaturation for SDS-PAGE.
Applications

Western Blot, ELISA, Fluorophore-linked immunosorbent assay, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunoprecipitation

Recommended Dilutions


Application Notes

Anti-Collagen antibodies have been used 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. Greatly diminished reactivity and selectivity of these antibodies will result if denaturing and reducing conditions are used for in immunoblotting. ICC/IF reported in the literature (PMID: 21903125) IHC-F reported in the literature (PMID: 22402320).

Images

Immunohistochemistry-Paraffin: Collagen I Antibody [NB600-408] - Rat colon tissue stained with Collagen I antibody (red) and Hoechst (blue). IHC-P image submitted by a verified customer review.

Immunohistochemistry-Paraffin: Collagen I Antibody [NB600-408] - Human lung tissue section stained with Collagen I antibody at 1:400.

Immunocytochemistry/Immunofluorescence: Collagen I Antibody [NB600-408] - Primary human cardiac fibroblast cells were stained with anti-Collagen I antibody. Cells were cultured for 3 days in DMEM with 10% fetal calf serum. ICC/IF image submitted by a verified customer review.
Western Blot: Collagen I Antibody [NB600-408] - Cell lysate from human trabecular meshwork. Antibody at 1:1,000. WB image submitted by a verified customer review.

Immunohistochemistry-Paraffin: Collagen I Antibody [NB600-408] - Analysis of HRP conjugate of NB600-408. FFPE Human Skin at pH 6. Primary antibody: Collagen Type I antibody at 10 ug/mL for 1 h at RT. Localization: Collagen Type I is secreted in the extracellular matrix.

Immunohistochemistry-Paraffin: Collagen I Antibody [NB600-408] - Imaging of rat calvarial defect bone. IHC-P image submitted by a verified customer review.

Immunohistochemistry-Paraffin: Collagen I Antibody [NB600-408] - Analysis of HRP conjugate of NB600-408. FFPE Human Skin tissue at pH 9. Primary antibody: Collagen Type I antibody at 10 ug/mL for 1 h at RT. Localization: Collagen Type I is secreted in the extracellular matrix. Staining: Collagen Type I as precipitated brown signal (A) with hematoxylin purple nuclear counterstain. With corresponding negative control (B).
Immunocytochemistry/Immunofluorescence: Collagen I Antibody [NB600-408] - Staining of human HaCaT-ras A5-RT3 (SCC) frozen tumor sections. Image provided by Dr. Wa’el Al Rawashdeh of RWTH Aachen University.

Western Blot: Collagen I Antibody [NB600-408] - Representative Western blot image for Collagen I, Collagen 2 and GAPDH. N/group = 8. Image collected and cropped by CiteAb from the following publication (http://doi.wiley.com/10.1111/jcmm.12367) licensed under a CC-BY licence.

Immunocytochemistry/Immunofluorescence: Collagen I Antibody [NB600-408] - Myofibroblast differentiation requires CD271/NGF activation. Representative alphaSMA (red) and COLLAGEN 1 (red) immunostaining with DAPI (blue) in non-treated (control), TGFbeta-treated cells with or without gamma-secretase inhibitor. Scale bars: 50 um Image collected and cropped by CiteAb from the following publication (http://www.nature.com/articles/s41467-019-09992-3) licensed under a CC-BY licence.

Immunohistochemistry: Collagen I Antibody [NB600-408] - Patient-derived CAF and NF CDMs are architecturally and functionally distinct. Representative western blots showing Collagen I (red) and fibronectin (blue) staining of patient #1 and #3 NF and CAF CDM. Scale bar, 20 um. (f) Representative SEM images of TIFF, Patient #1 NF and CAF CDM. Scale bar, 5 um. Image collected and cropped by CiteAb from the following publication (http://www.nature.com/doifinder/10.1038/ncomms12237) licensed under a CC-BY licence.
Western Blot: Collagen I Antibody [NB600-408] - Analysis in porcine burn wound lysate using anti-Collagen I alpha 1 antibody. WB image submitted by a verified customer review.

Western Blot: Collagen I Antibody [NB600-408] - Lane 1: Human Collagen Type 1. Lane 2: None. Load: 50 ng per lane. Primary antibody: Collagen Type I antibody at 1:1000 overnight at 4C. Secondary antibody: DyLight 649 rabbit secondary antibody at 1:20000 for 30 min at RT. Block: incubated with blocking buffer for 30 min at RT. Predicted/Observed size: 139 & 130 kDa, 139 & 130 kDa for Collagen Type I. Other Band(s): Collagen Type I splice variants and isoforms.

Western Blot: Collagen I Antibody [NB600-408] - Detection of collagen I in Wistar rat hepatic stellate cells (HSC) in control (GFP-transduced) (left lane) and PPARg-transduced cell lysates (right lane). Protein staining shown below each blot depicts equal protein loading. An equal amount of the whole cell protein (100 ug) was separated by SDS-PAGE and electroblotted to nitro-cellulose membranes. Proteins were detected by incubating the membrane with anti-Collagen I antibody at a concentration of 0.2-2 ug/10 mL in TBS (100 mM Tris-HCl, 0.15 M NaCl, pH 7.4) with 5% non-fat milk. Detection occurred by incubation with a HRP conjugated secondary antibody at 1 ug/10 mL. Proteins were detected by a chemiluminescent method using the PIERCE ECL kit (Amersham Biosciences).

Immunohistochemistry-Paraffin: Collagen I Antibody [NB600-408] - Balb/3T3 mouse embryonic fibroblast cell line stained with Collagen I antibody. IHC-P image submitted by a verified customer review.
Immunohistochemistry-Paraffin: Collagen I Antibody [NB600-408] - Mouse pancreas tissue stained with Collagen I antibody. IHC-P image submitted by a verified customer review.

Immunohistochemistry-Paraffin: Collagen I Antibody [NB600-408] - FFPE right lobe of the liver tissue 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). Antigen retrieval: not required. Primary antibody: Anti-collagen type I at 1:1250 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 I is intra and extracellular. Staining: 3,3’-diaminobenzidine tetrahydrochloride was used as the chromogen. Nuclei were counterstained purple with hematoxylin.

Immunohistochemistry: Collagen I Antibody [NB600-408] - Analysis of FFPE human lung. Primary antibody: Collagen I 1:400. Secondary antibody: Peroxidase goat anti-rabbit at 1:10,000 for 45 min at RT. Localization: Strong staining was observed in the extracellular matrix of the lung. Epithelial cells were negative. Staining: antibody as precipitated red signal with a hematoxylin purple nuclear counterstain.

Immunohistochemistry: Collagen I Antibody [NB600-408] - Immunohistological staining of EG treated rat kidneys for Collagen. Magnification X40, Scale bar 100 um. Image collected and cropped by CiteAb from the following publication (http://dx.plos.org/10.1371/journal.pone.0185009), licensed under a CC-BY licence.
Immunohistochemistry: Collagen I Antibody [NB600-408] - Macro- and micro-architecture of human adipose tissue lobule. Representative immunostaining of the human AT lobule with Collagen I (COL1), CD34, and DAPI. The position of the septa is underlined, scale bar: 100 um. Image collected and cropped by CiteAb from the following publication (http://www.nature.com/articles/s41467-019-09992-3) licensed under a CC-BY licence.

Publications

Regoli M, Tosi GM, Neri G The Peculiar Pattern of Type IV Collagen Deposition in Epiretinal Membranes J. Histochem. Cytochem. Dec 20 2019 12:00AM [PMID: 31858878] (ICC/IF, Human)


Aljohani H, Senbanjo LT, Chellaiah MA Methylsulfonylmethane increases osteogenesis and regulates the mineralization of the matrix by transglutaminase 2 in SHED cells PLoS ONE Dec 5 2019 12:00AM [PMID: 31805069] (WB, Human)


Melchor SJ, Hatter JA, Castillo EALT, Saunders CM Cachexia and fibrosis are costs of chronic IL-1R-mediated disease tolerance in T. gondii infection bioRxiv


Chen PY, Qin L, Li G et al. Endothelial TGF-beta signalling drives vascular inflammation and atherosclerosis Nat Metab Sep 1 2019 12:00AM [PMID: 31572976] (IHC, Mouse)


More publications at http://www.novusbio.com/NB600-408
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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