**Product datasheet**

**Anti-Collagen I antibody [COL-1] ab90395**

**Product name**  
Anti-Collagen I antibody [COL-1]

**Description**  
Mouse monoclonal [COL-1] to Collagen I

**Host species**  
Mouse

**Specificity**  
ab90395 will not cross react with collagen 2-11, or thermally denatured collagen. The antibody is reactive with the native (non-denaturing, helical) form of collagen type I and not reactive with hen tested on thermally denatured molecules. Use native (non-denaturing) conditions.

**Tested applications**  
Suitable for: Dot blot, IHC-Glut, IHC-R, IP, Indirect ELISA, WB, ELISA, IHC-Fr, ICC/IF, Electron Microscopy, IHC-FoFr

Unsuitable for: IHC-P

**Species reactivity**  
Reacts with: Rat, Rabbit, Cow, Human, Pig, Deer

**Immunogen**  
Full length native protein (purified) corresponding to Cow Collagen I.

Database link: P02452

**Positive control**  
Connective tissue fibres. Pig skin tissue.

**General notes**  
**IHC-P application:** We have received positive as well as negative customer feedback for IHC-P. The antibody is not batch-tested in this application, thus additional troubleshooting might be needed to obtain satisfactory results.

**Properties**

**Form**  
Liquid

**Storage instructions**  
Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.

**Storage buffer**  
Constiutents: PBS, Ascites

**Purity**  
Ascites

**Clonality**  
Monoclonal

**Clone number**  
COL-1

**Isotype**  
IgG1

**Applications**
**Application notes**

Our Abpromise guarantee covers the use of ab90395 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
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<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tr>
<td>Dot blot</td>
<td>Use at an assay dependent concentration. Assay dependent</td>
<td></td>
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<tr>
<td>IHC-Glut</td>
<td>Use at an assay dependent concentration.</td>
<td></td>
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<tr>
<td>IHC-R</td>
<td>Use at an assay dependent concentration.</td>
<td></td>
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<tr>
<td>IP</td>
<td>1/50.</td>
<td></td>
</tr>
<tr>
<td>Indirect ELISA</td>
<td>Use at an assay dependent concentration.</td>
<td></td>
</tr>
<tr>
<td>WB</td>
<td>1/500 - 1/3000. Use under non reducing condition. Predicted molecular weight: 139 kDa. The antibody is reactive with the native (non-denaturing, helical) form of collagen type I and not reactive when tested on thermally denatured molecules. Use native (non-denaturing) conditions, as the antibody does not recognise denatured protein.</td>
<td></td>
</tr>
<tr>
<td>ELISA</td>
<td>Use at an assay dependent concentration. Assay dependent</td>
<td></td>
</tr>
<tr>
<td>IHC-Fr</td>
<td>1/2000.</td>
<td></td>
</tr>
<tr>
<td>Electron Microscopy</td>
<td>1/100 - 1/1000. PubMed: 17016762for Gold labeling</td>
<td></td>
</tr>
<tr>
<td>IHC-FoFr</td>
<td>1/100. PubMed: 17016762 Fix in Zamboni's solution (2% paraformaldehyde, 0.2% picric acid in phosphate-buffered saline (PBS), pH 7.6) for 2 h at 4C, store in 20% sucrose in 0.5 mM PBS at 4C.</td>
<td></td>
</tr>
</tbody>
</table>

**Application notes**

Is unsuitable for IHC-P.

**Target**

**Function**

Type I collagen is a member of group I collagen (fibrillar forming collagen).

**Tissue specificity**

Forms the fibrils of tendon, ligaments and bones. In bones the fibrils are mineralized with calcium hydroxyapatite.

**Involvement in disease**

Defects in COL1A1 are the cause of Caffey disease (CAFFD) [MIM:114000]; also known as infantile cortical hyperostosis. Caffey disease is characterized by an infantile episode of massive subperiosteal new bone formation that typically involves the diaphyses of the long bones, mandible, and clavicles. The involved bones may also appear inflamed, with painful swelling and systemic fever often accompanying the illness. The bone changes usually begin before 5 months of age and resolve before 2 years of age.

Defects in COL1A1 are a cause of Ehlers-Danlos syndrome type 1 (EDS1) [MIM:130000]; also known as Ehlers-Danlos syndrome gravis. EDS is a connective tissue disorder characterized by hyperextensible skin, atrophic cutaneous scars due to tissue fragility and joint hyperlaxity. EDS1 is the severe form of classic Ehlers-Danlos syndrome.
Defects in COL1A1 are the cause of Ehlers-Danlos syndrome type 7A (EDS7A) [MIM:130060]; also known as autosomal dominant Ehlers-Danlos syndrome type VII. EDS is a connective tissue disorder characterized by hyperextensible skin, atrophic cutaneous scars due to tissue fragility and joint hyperlaxity. EDS7A is marked by bilateral congenital hip dislocation, hyperlaxity of the joints, and recurrent partial dislocations.

Defects in COL1A1 are a cause of osteogenesis imperfecta type 1 (OI1) [MIM:166200]. A dominantly inherited connective tissue disorder characterized by bone fragility and blue sclerae. Osteogenesis imperfecta type 1 is non-deforming with normal height or mild short stature, and no dentinogenesis imperfecta.

Defects in COL1A1 are a cause of osteogenesis imperfecta type 2A (OI2A) [MIM:166210]; also known as osteogenesis imperfecta congenita. A connective tissue disorder characterized by bone fragility, with many perinatal fractures, severe bowing of long bones, undermineralization, and death in the perinatal period due to respiratory insufficiency.

Defects in COL1A1 are a cause of osteogenesis imperfecta type 3 (OI3) [MIM:259420]. A connective tissue disorder characterized by progressively deforming bones, very short stature, a triangular face, severe scoliosis, grayish sclera, and dentinogenesis imperfecta.

Defects in COL1A1 are a cause of osteogenesis imperfecta type 4 (OI4) [MIM:166220]; also known as osteogenesis imperfecta with normal sclerae. A connective tissue disorder characterized by moderately short stature, mild to moderate scoliosis, grayish or white sclera and dentinogenesis imperfecta.

Genetic variations in COL1A1 are a cause of susceptibility to osteoporosis (OSTEOP) [MIM:166710]; also known as involutional or senile osteoporosis or postmenopausal osteoporosis. Osteoporosis is characterized by reduced bone mass, disruption of bone microarchitecture without alteration in the composition of bone. Osteoporotic bones are more at risk of fracture.

Note=A chromosomal aberration involving COL1A1 is found in dermatofibrosarcoma protuberans. Translocation t(17;22)(q22;q13) with PDGF.

Sequence similarities
Belongs to the fibrillar collagen family.
Contains 1 fibrillar collagen NC1 domain.
Contains 1 VWFC domain.

Post-translational modifications
Proline residues at the third position of the tripeptide repeating unit (G-X-Y) are hydroxylated in some or all of the chains. Proline residues at the second position of the tripeptide repeating unit (G-X-Y) are hydroxylated in some of the chains.
O-linked glycan consists of a Glc-Gal disaccharide bound to the oxygen atom of a post-translationally added hydroxyl group.

Cellular localization
Secreted > extracellular space > extracellular matrix.

Images
**All lanes**: Anti-Collagen I antibody [COL-1] (ab90395) at 1/1000 dilution

**Lane 1**: Recombinant Human Collagen I at 3 µg

**Lane 2**: Pig skin whole cell lysate extracted in Laemmli buffer at 20 µg

**Secondary**

**All lanes**: HRP-conjugated Goat anti-mouse monoclonal IgG at 1/3000 dilution

Developed using the ECL technique.

Performed under non-reducing conditions.

**Predicted band size**: 139 kDa

**Observed band size**: 130, 140 kDa

**why is the actual band size different from the predicted?**

**Additional bands at**: 250 kDa (possible dimer), 400 kDa (possible multimer)

**Exposure time**: 30 seconds

Blocked with 5% Milk for 1 hour at 20°C.
ab90395 staining Collagen I in Pig ureter tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with paraformaldehyde and blocked with 5% BSA for 30 minutes at 20°C. Samples were incubated with primary antibody (1/2000) for 4 hours at 2°C. A Cy2®-conjugated Goat anti-mouse polyclonal (1/800) was used as the secondary antibody.

ab90395 staining Collagen I in Pig skin tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with formaldehyde and blocked with 5% serum for 1 hour at 20°C. Samples were incubated with primary antibody (1/500 in PBS, Tween 0.01% + Donkey serum 1%) for 16 hours at 4°C. A Cy2®-conjugated Donkey anti-mouse IgG polyclonal (1/100) was used as the secondary antibody.

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