abcam

Product datasheet

Anti-Collagen I antibody [3G3] - BSA and Azide free ab88147

11 Abreviews 59 References 8 Images

Overview

Product name	Anti-Collagen I antibody [3G3] - BSA and Azide free
Description	Mouse monoclonal [3G3] to Collagen I - BSA and Azide free
Host species	Mouse
Tested applications	**Suitable for:** WB, ELISA, IHC-P
Species reactivity	**Reacts with:** Mouse, Human, Recombinant fragment
Immunogen	Recombinant fragment (GST-tag) corresponding to Human Collagen I aa 1021-1109. Sequence: EGSPGRDGSPGAKGDRGETGPAGPPGAPGAPGAPGPV GPAGKSGDRGETG PAGPAGPVGPVGARGPAGPQGPRGDKGETGEQGDRGIK Run BLAST with Run BLAST with
Positive control	WB: Lysate from NIH/3T3 cells expressing GST-tagged Collagen I. IHC-P: FFPE human normal skin, human normal placenta, mouse normal placenta.
General notes	This product was changed from ascites to tissue culture supernatant on 17/04/2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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 long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40

	Constituent: 100% PBS
Carrier free	Yes
Purity	Tissue culture supernatant
Clonality	Monoclonal
Clone number	3G3
Isotype	IgG3
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab88147 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ **(2)**	Use at an assay dependent concentration. Predicted molecular weight: 139 kDa. Positive Control: Hu stomach, skin and adrenal gland tissue lysates. Acid or enzyme treatment with pepsin is a better method to isolate collagen. Continuous refrigeration throughout collagen extraction is important to avoid degradation and denaturation
ELISA		Use at an assay dependent concentration.
IHC-P	★★★★☆ **(6)**	Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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.

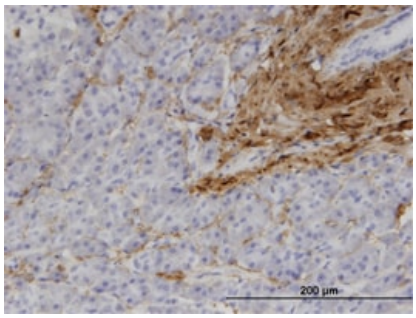
Post-translational modifications

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.

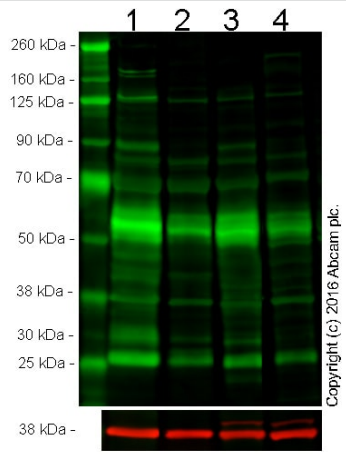
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147)

IHC-P of ab88147 on human pancreas. antibody concentration 3 ug/ml.

This image was generated using the ascites version of the product.



Western blot - Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147)

All lanes : Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147) at 1/1000 dilution

Lane 1 : Mouse skin
Lane 2 : Mouse placenta
Lane 3 : Mouse kidney
Lane 4 : Mouse liver

Lysates/proteins at 20 µg per lane.

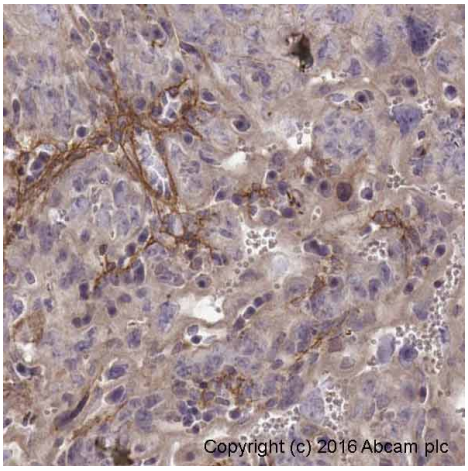
Secondary
All lanes : IR- goat anti-mouse (green) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 139 kDa

This blot was produced using a 4-12% Bis-Tris gel under the MOPS buffer system under denaturing, reducing conditions. The gel was run at 200V for 60 minutes before being transferred onto a nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour before being incubated with mouse anti-Collagen I antibody (88147; 1:1000) and the loading control rabbit anti-GAPDH antibody (**ab9485**; 1:10000) overnight at 4°C. Antibody binding was detected using infrared (IR) labelled goat anti-mouse (green; 1:10000) and IR-goat anti-rabbit (red; 1:10000) for 1 hour at room temperature before imaging.

This image was generated using the ascites version of the product.

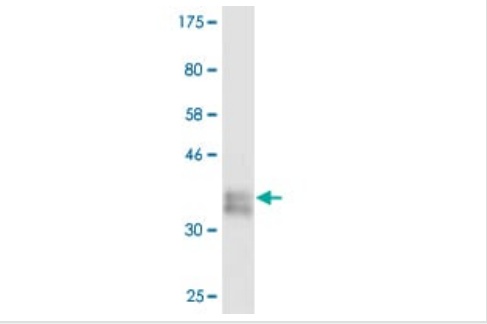


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147)

IHC image of collagen I staining in a section of normal mouse placenta formalin-fixed paraffin-embedded. The section was pre-treated using pressure cooker heat mediated antigen retrieval with sodium citrate buffer (pH6) for 30mins, and incubated overnight at +4°C with ab88147 at 1/200 dilution. An HRP-conjugated secondary (Ab97040, 1/500 dilution) was used for 1hr at room temperature. DAB was used as the chromogen (10min at room temperature). The section was counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

This image was generated using the ascites version of the product.



Western blot - Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147)

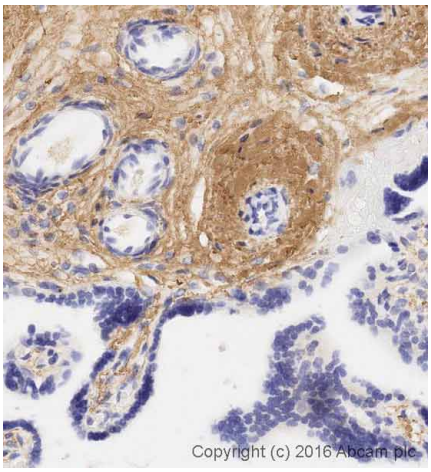
Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147) at 1 µg/ml + immunogen (88 aa recombinant fragment with a proprietary tag of 26kDa) at 0.2 µg

Secondary

Goat anti-Mouse IgG at 1/5000 dilution

Predicted band size: 139 kDa

This image was generated using the ascites version of the product.



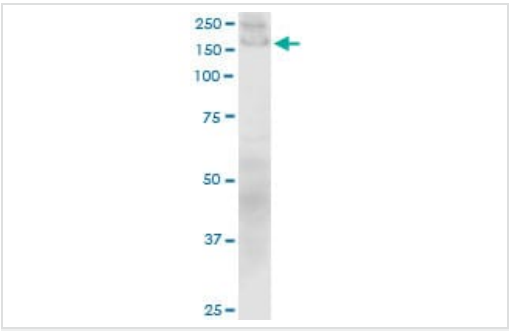
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147)

IHC image of Collagen I staining in normal human placenta formalin fixed paraffin embedded tissue section*, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab88147, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre

This image was generated using the ascites version of the product.



Western blot - Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147)

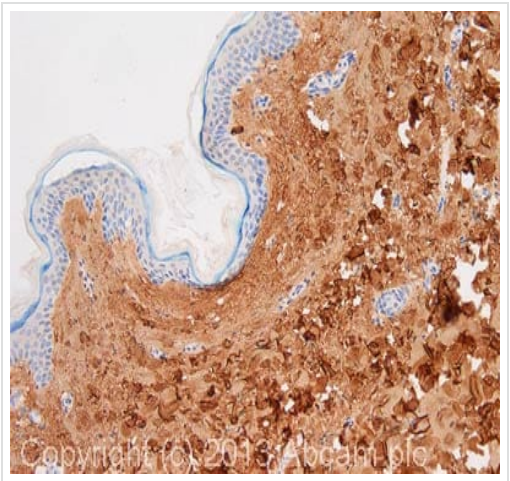
Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147) at 1 µg/ml + lysate from NIH/3T3 cells expressing GST-tagged Collagen I at 25 µg

Secondary

Goat anti-Mouse IgG at 1/5000 dilution

Predicted band size: 139 kDa

This image was generated using the ascites version of the product.

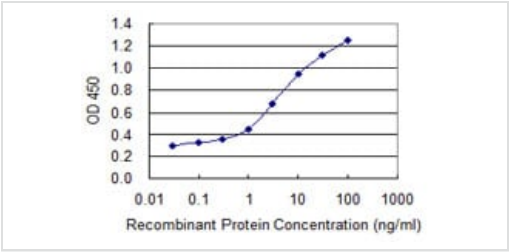


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147)

IHC image of Collagen I staining in human skin formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab88147, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

This image was generated using the ascites version of the product.



ELISA - Anti-Collagen I antibody [3G3] - BSA and Azide free (ab88147)

Detection limit for ab88147 is 0.03 ng/ml as a capture antibody.

This image was generated using the ascites version of the product.

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