abcam

Product datasheet

Anti-Collagen I antibody [EPR24331-53] ab270993

リコンビナント RabMAb

1 Abreviews 42 References 画像数 12

製品の概要

製品名	Anti-Collagen I antibody [EPR24331-53]
製品の詳細	Rabbit monoclonal [EPR24331-53] to Collagen I
由来種	Rabbit
アプリケーション	**適用あり:** ICC/IF, IHC-Fr, WB, Flow Cyt (Intra), IHC-P, IP
種交差性	**交差種:** Mouse, Rat
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
ポジティブ・コントロール	WB: NIH/3T3 whole cell lysate; Mouse skin and Rat skin tissue lysates; Mouse lung and heart tissue lysates. IHC-P: Mouse skin, stomach and pancreatic cancer tissue; Rat skin tissue. IHC-Fr: Rat skin; Mouse skin tissue. Flow Cyt (intra) (intra): NIH/3T3 cells. ICC/IF: NIH/3T3 cells. IP: Mouse skin tissue lysate.
特記事項	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

製品の特性

製品の状態	Liquid
保存方法	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.
バッファー	Preservative: 0.01% Sodium azide Constituents: 59.94% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
精製度	Protein A purified
ポリ/モノ	モノクローナル
クローン名	EPR24331-53

アイソタイプ IgG

アプリケーション

The Abpromise guarantee **Abpromise保証は、** 次のテスト済みアプリケーションにおけるab270993の使用に適用されます

アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
ICC/IF		1/2000.
IHC-Fr		1/100. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20)
WB		1/1000. Predicted molecular weight: 139 kDa. For mouse samples, please use high sensitivity substrate.
Flow Cyt (Intra)		1/500.
IHC-P	★☆☆☆☆ (1)	1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IP		1/30.

ターゲット情報

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

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

関連疾患 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.

配列類似性

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

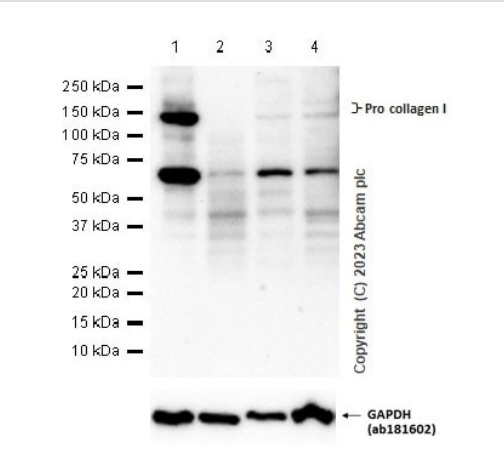
翻訳後修飾

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.

細胞内局在

Secreted > extracellular space > extracellular matrix.

画像



Western blot - Anti-Collagen I antibody [EPR24331-53] (ab270993)

All lanes : Anti-Collagen I antibody [EPR24331-53] (ab270993) at 1/1000 dilution

Lane 1 : Mouse skin tissue lysate
Lane 2 : Mouse kidney tissue lysate
Lane 3 : Mouse lung tissue lysate
Lane 4 : Mouse heart tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 139 kDa
Observed band size: 139 kDa

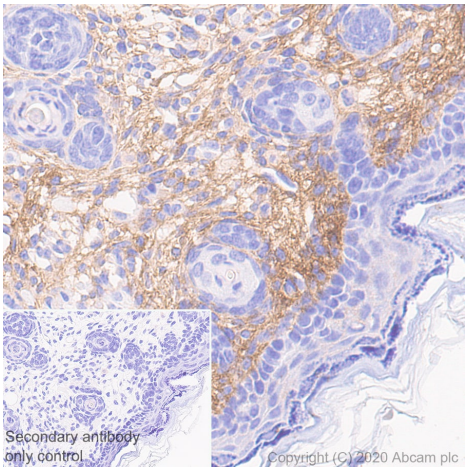
Exposure time: 100 seconds

Blocking buffer and concentration : 5% NFDM/TBST.

Diluting buffer and concentration : 5% NFDM/TBST.

ab181602 was used as a loading control.

This blot was produced using a high sensitivity ECL substrate.

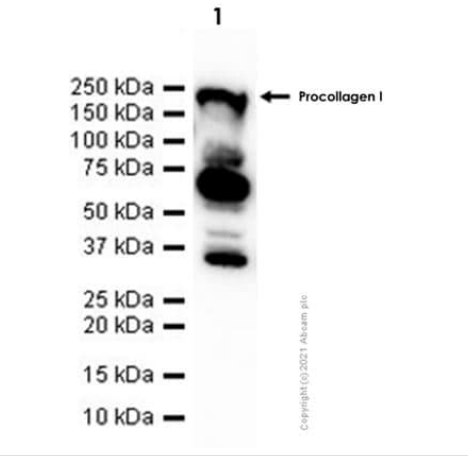


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody (ab270993)

Immunohistochemical analysis of paraffin-embedded Mouse skin tissue labeling Collagen I with ab270993 at 1/500 dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining in connective tissues of mouse skin. The section was incubated with ab270993 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Western blot - Anti-Collagen I antibody [EPR24331-53] (ab270993)

Anti-Collagen I antibody [EPR24331-53] (ab270993) at 1/1000 dilution + NIH/3T3 (mouse embryonic fibroblast), whole cell lysate at 20 µg

Secondary

Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 139 kDa

Observed band size: 220 kDa

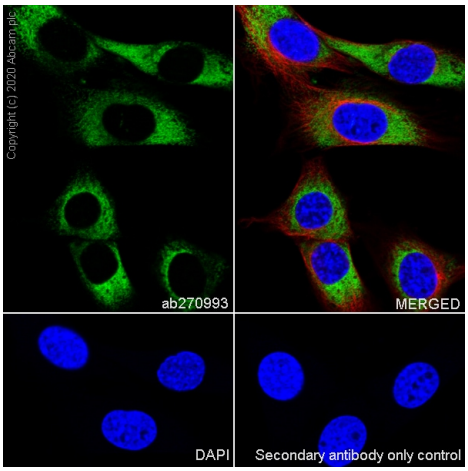
Exposure time: 20 seconds

Blocking buffer and concentration: 5% NFDM/TBST

Diluting buffer and concentration: 5% NFDM/TBST

We are unsure how to define these extra bands below 100kDa.

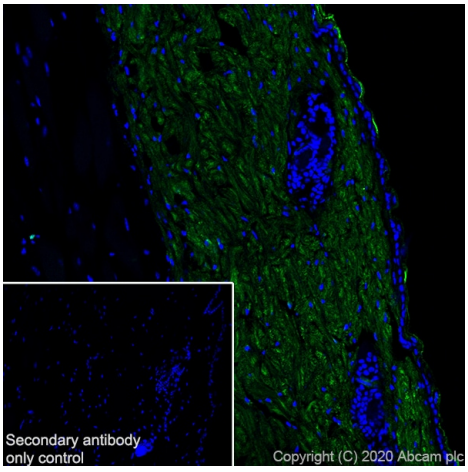
The molecular weight observed is consistent with what has been described in the literature (PMID:23940311;PMID:29853175).



Immunocytochemistry/ Immunofluorescence - Anti-Collagen I antibody [EPR24331-53] (ab270993)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 cells labelling Collagen I with ab270993 at 1/2000 dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in NIH/3T3 cells is observed. **ab195889** Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

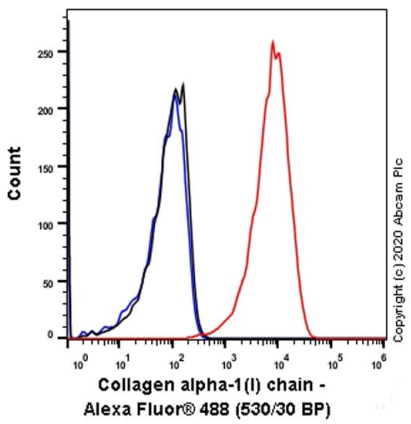


Immunohistochemistry (Frozen sections) - Anti-Collagen I antibody (ab270993)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse skin tissue labeling Collagen I with ab270993 at 1/100 dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Positive staining on mouse skin is observed. The nuclear counterstain was DAPI (Blue).

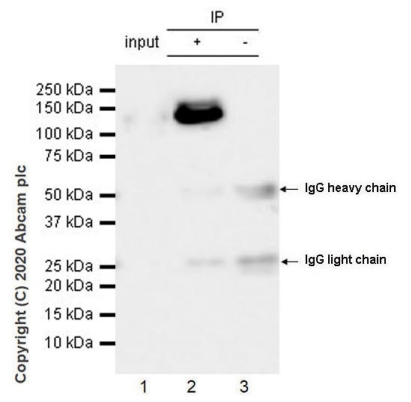
Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Flow Cytometry (Intracellular) - Anti-Collagen I antibody [EPR24331-53] (ab270993)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (Mouse embryonic fibroblast) cells labelling Collagen I with ab270993 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (**ab172730**) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-Collagen I antibody (ab270993)

Collagen I was immunoprecipitated from 0.35 mg Mouse skin tissue lysate 10 ug with ab270993 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab270993 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(**ab131366**) was used at 1/5000 dilution.

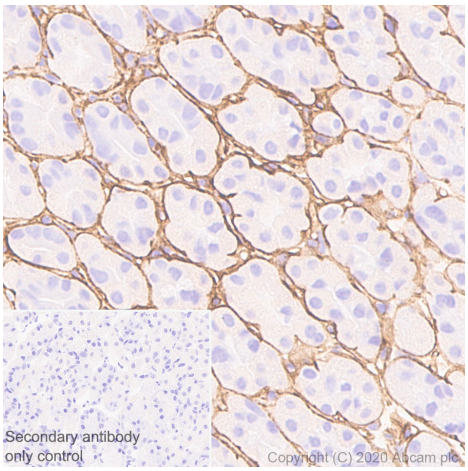
Lane 1: Mouse skin tissue lysate 10 ug

Lane 2: ab270993 IP in Mouse skin tissue lysate

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab270993 in Mouse skin tissue lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 32 seconds

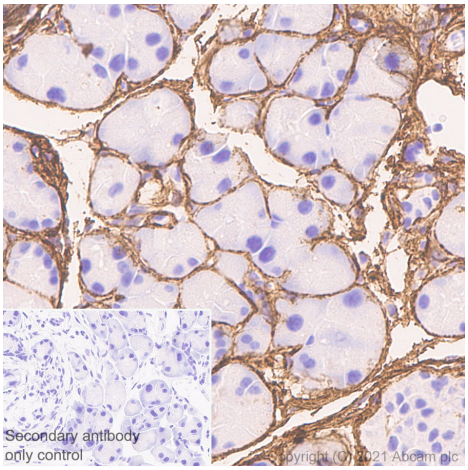


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody (ab270993)

Immunohistochemical analysis of paraffin-embedded Mouse stomach tissue labeling Collagen I with ab270993 at 1/500 dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining in connective tissues of mouse stomach. The section was incubated with ab270993 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

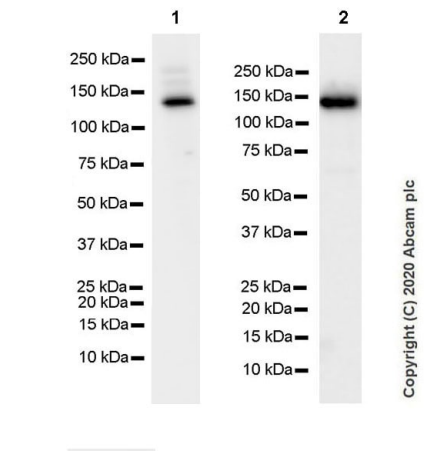


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody (ab270993)

Immunohistochemical analysis of paraffin-embedded Mouse pancreatic cancer tissue labeling Collagen I with ab270993 at 1/500 dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining in connective tissues of mouse pancreatic cancer. The section was incubated with ab270993 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Western blot - Anti-Collagen I antibody [EPR24331-53] (ab270993)

All lanes : Anti-Collagen I antibody [EPR24331-53] (ab270993) at 1/1000 dilution

Lane 1 : Mouse skin tissue lysate
Lane 2 : Rat skin tissue lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution (Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated)

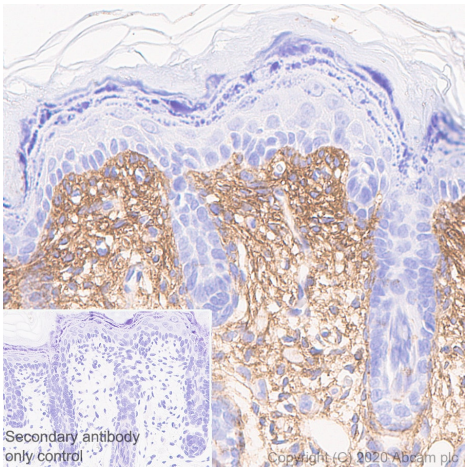
Predicted band size: 139 kDa
Observed band size: 138 kDa

Blocking and diluting buffer and concentration: 5% NFDM/TBST

The observed MW is consistent with what has been described in the literature (PMID: 27740527;PMID: 22278938; PMID: 26973392).

Exposure time: Lane 1: 3.25 seconds

Lane 2: 5.5 seconds

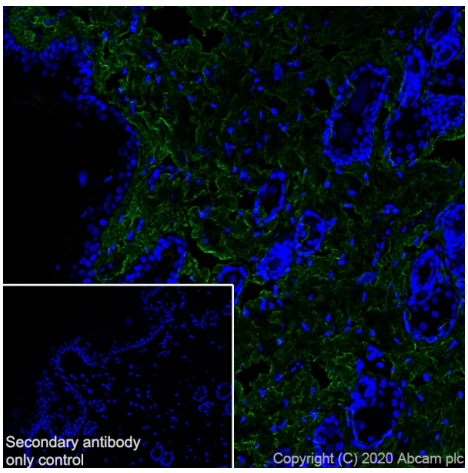


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody (ab270993)

Immunohistochemical analysis of paraffin-embedded Rat skin tissue labeling Collagen I with ab270993 at 1/500 dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive staining in connective tissues of rat skin. The section was incubated with ab270993 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Frozen sections) - Anti-Collagen I antibody (ab270993)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat skin tissue labeling Collagen I with ab270993 at 1/500 dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Positive staining on rat skin is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

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