abcam

Product datasheet

Anti-Collagen I antibody [EPR7785] ab138492

敲除验证 重组 RabMAb

35 Abreviews 197 References 20 图像

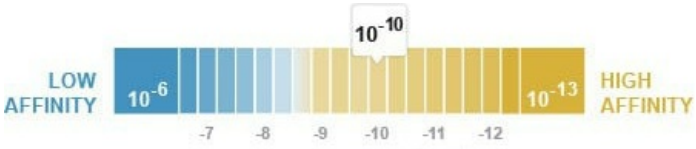
概述

产品名称	Anti-Collagen I抗体[EPR7785]
描述	兔单克隆抗体[EPR7785] to Collagen I
宿主	Rabbit
特异性	Compared with ab138492, **ab255809** has higher affinity. We recommend **ab255809** as an alternative for testing pro-Collagen forms in western blot. ab138492 works in western blot in samples with high level of collagen I, like HFF-1, MRC-5, skin tissue etc. ab138492 is specific for pro-Collagen and 139kda mature from, while **ab255809** is specific for pro-Collagen and 35kda C-terminal pro peptide.
经测试应用	**适用于:** WB, IHC-P, ICC/IF, IHC-Fr
种属反应性	**与反应:** Human **预测可用于:** Cow
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
阳性对照	WB: HFF-1 and MRC-5 whole cell lysates, Human stomach, skin and adrenal gland tissue lysates. IHC-P: Human breast carcinoma, colon, placenta and stomach tissues. IHC-Fr: Frozen Human cervix and uterus tissue sections. ICC/IF: U2OS cells
常规说明	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**. Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

性能

形式	Liquid

存放说明	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
解离常数 (K_D)	$K_D = 1.22 \times 10^{-10}$ M



Learn more about K_D

存储溶液	Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 0.05% BSA, PBS
纯度	Protein A purified
克隆	单克隆
克隆编号	EPR7785
同种型	IgG

应用

The Abpromise guarantee Abpromise™承诺保证使用ab138492于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
WB	★★★★★ (2)	1/1000 - 1/10000. Predicted molecular weight: 139 kDa. Sample preparation: frozen, ground tissue samples were added to hot lysis buffer (10 mM Tris-HCl (pH 8.0); 1%SDS; 1.0 mM Na-Orthovanadate), boiled for 10-20 minutes and sonicated (3 seconds at 40kW, 30 intervals) prior to centrifugation. Positive Control: Hu stomach, skin and adrenal gland tissue lysates.
IHC-P	★★★★☆ (21)	1/1500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
ICC/IF	★★★★☆ (5)	Use a concentration of 0.4 µg/ml.
IHC-Fr	★★★★☆ (3)	Use a concentration of 0.1 - 0.5 µg/ml.

靶标

功能	Type I collagen is a member of group I collagen (fibrillar forming collagen).
组织特异性	Forms the fibrils of tendon, ligaments and bones. In bones the fibrils are mineralized with calcium hydroxyapatite.
疾病相关	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.

序列相似性

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

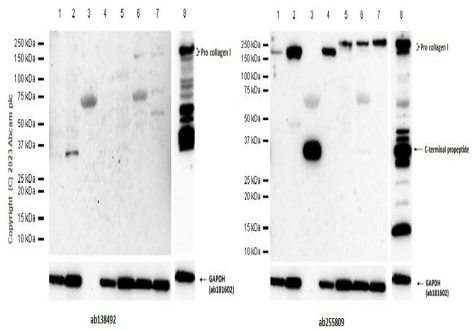
翻译后修饰

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.

细胞定位

Secreted > extracellular space > extracellular matrix.

图片



Western blot - Anti-Collagen I antibody [EPR7785] (ab138492)

All lanes : ab138492 and **ab255809** at 1/1000 dilution

Lane 1 : A549 (Human lung carcinoma epithelial cell) whole cell lysate
Lane 2 : MDA-MB-231 (Human breast adenocarcinoma epithelial cell) whole cell lysate
Lane 3 : MDA-MB-231 (Human breast adenocarcinoma epithelial cell) supernatant lysate
Lane 4 : A431 (Human epidermoid carcinoma epithelial cell) whole cell lysate
Lane 5 : SW480 (Human colorectal adenocarcinoma epithelial cell) whole cell lysate
Lane 6 : Human lung tissue lysate
Lane 7 : Human liver tissue lysate
Lane 8 : HFF-1 (Human Skin fibroblast) whole cell 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: 220 kDa

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM/TBST.

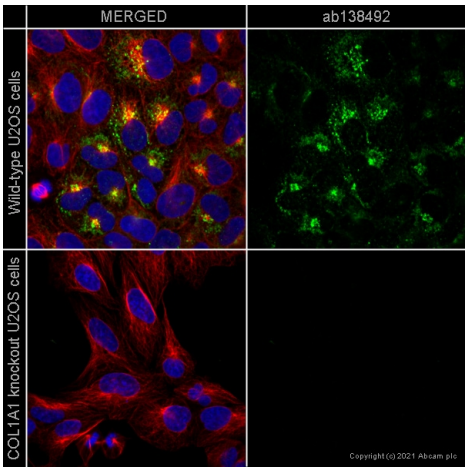
Exposure Time: Lane 1-7: 180 seconds, Lane 8: 60 seconds.

ab181602 was used as loading control.

Compared with ab138492, **ab255809** has higher affinity. We recommend **ab255809** as an alternative for testing pro-Collagen forms in western blot.

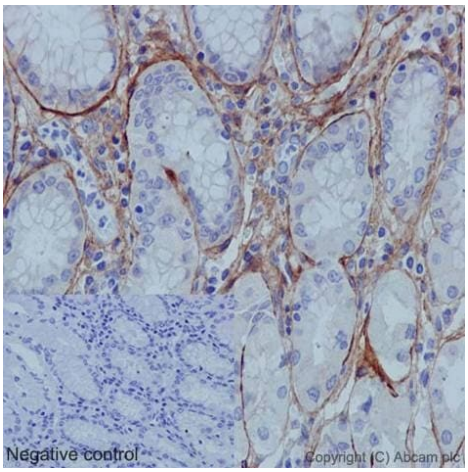
ab138492 is specific for pro-Collagen and 139kda mature from, while **ab255809** is specific for pro-Collagen and 35kda C-terminal pro peptide.

For better using **ab255809**, we recommend loading higher amount of lysate or using lower antibody dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Collagen I antibody [EPR7785] (ab138492)

ab138492 staining Collagen alpha-1 chain in wild-type U2OS cells (top panel) and COL1A1 knockout U2OS cells (bottom panel) (**ab273846**). The cells were fixed with 100% methanol (5 min) then permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab138492 at 0.4µg/ml concentration and **ab7291** (Mouse monoclonal to alpha Tubulin) at 1/1000 dilution overnight at 4°C followed by a further incubation at room temperature for 1h with a goat secondary antibody to rabbit IgG (Alexa Fluor® 488) (**ab150081**) at 2 µg/ml (shown in green) and a goat secondary antibody to mouse IgG (Alexa Fluor® 594) (**ab150120**) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human stomach tissue labeling Collagen I with purified ab138492 at 1/1500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody.

Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

Western blot - Anti-Collagen I antibody [EPR7785] (ab138492)

All lanes : Anti-Collagen I antibody [EPR7785] (ab138492) at 1/5000 dilution

Lane 1 : HFF-1 (human skin fibroblast) whole cell lysate
Lane 2 : MRC-5 (Human lung fibroblast) whole cell lysate

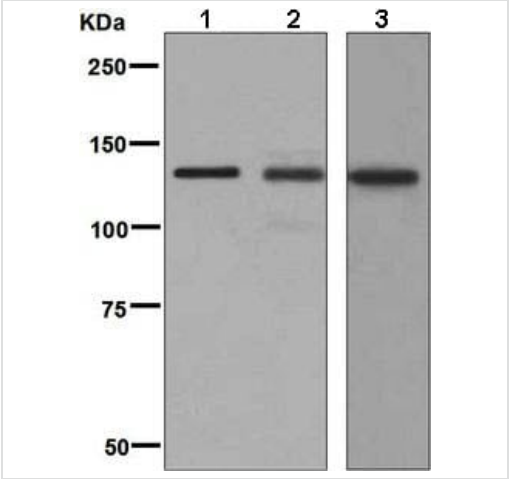
Lysates/proteins at 15 µg per lane.

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

Predicted band size: 139 kDa
Observed band size: 220 kDa

Blocking buffer: 5% NFDM/TBST.

Exposure time: 180 seconds.



Western blot - Anti-Collagen I antibody [EPR7785] (ab138492)

All lanes : Anti-Collagen I antibody [EPR7785] (ab138492) at 1/1000 dilution (unpurified)

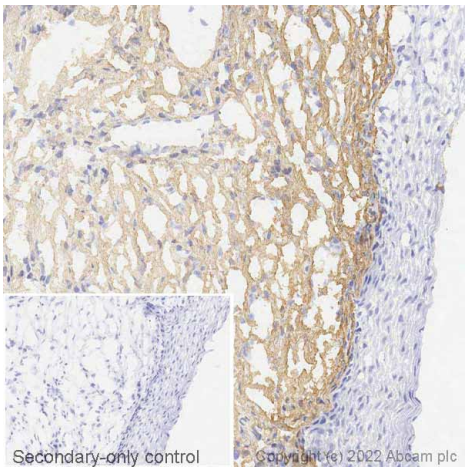
Lane 1 : Human stomach tissue lysate
Lane 2 : Human skin lysate
Lane 3 : Human adrenal gland lysate

Lysates/proteins at 10 µg per lane.

Secondary
Lane 1 : HRP-conjugated goat anti-rabbit IgG at 1/2000 dilution
Lanes 2-3 : HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 139 kDa

The lysate in this image is prepared by 1%SDS Hot lysis method. For Lysate preparation protocol, please refer to the protocol book in the protocol section and/or **here (downloadable copy).**

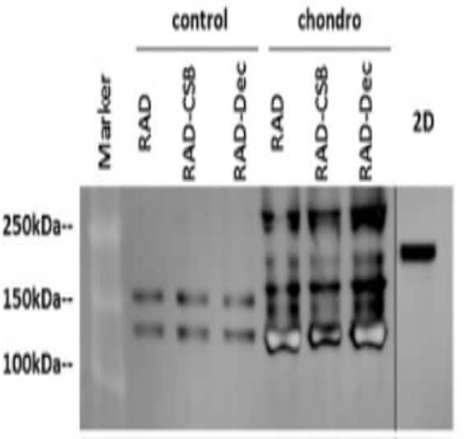


Immunohistochemistry (Frozen sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

IHC image of Collagen I staining in a section of frozen human cervix* performed on a Leica Biosystems BOND® RX instrumen using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab138492, 0.01 ug/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. The inset secondary-only control image is taken from an identical assay without primary antibody.

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.



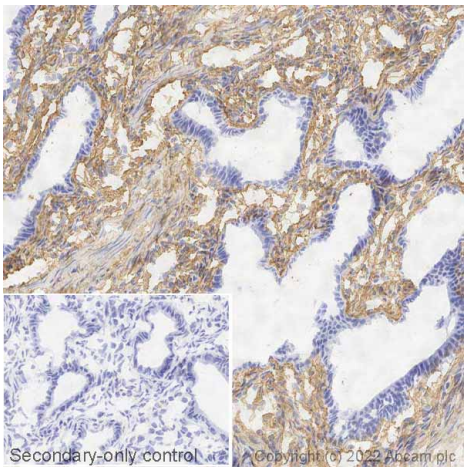
Western blot - Anti-Collagen I antibody [EPR7785] (ab138492)

Recha-Sancho et al PLoS One. 2016 Jun 17;11(6):e0157603. doi: 10.1371/journal.pone.0157603. eCollection 2016. Fig 7. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/

Western blot results of Collagen I from ADSCs (human adipose derived stem cells) cultured in RAD16-I alone, RAD/CS or RAD/Decorin. Actin was used as an internal control. Samples were prepared in triplicate; control, control medium; chondro, chondrogenic medium.

Samples were lysed in RIPA buffer with a protease inhibitor cocktail. Acrylamide gels were prepared according to the size of the proteins, generally at concentrations of 7.5% or 10% (w/v). Cell lysates (5 mg) were run by applying 150 V for 90 min. Proteins were transferred to a PVDF membrane by applying 40 V for 2 hours at RT. The membrane was incubated at RT for 2 hours in blocking buffer (BB) consisting of 4% (w/v) nonfat milk powder in PBST. Membranes were incubated for 1 hour at RT with ab138492 at a final concentration of 1 mg/mL in PBST. An anti-rabbit (IgG-HRP) secondary antibody was added, at a final concentration of 1 mg/mL, and incubated at RT for 1 h.

For full image please see paper.

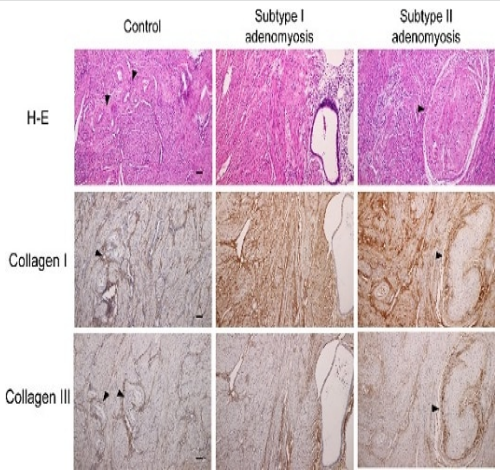


Immunohistochemistry (Frozen sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

IHC image of Collagen I staining in a section of frozen human uterus* performed on a Leica Biosystems BOND® RX instrumen using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab138492, 0.05 ug/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. The inset secondary-only control image is taken from an identical assay without primary antibody.

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.

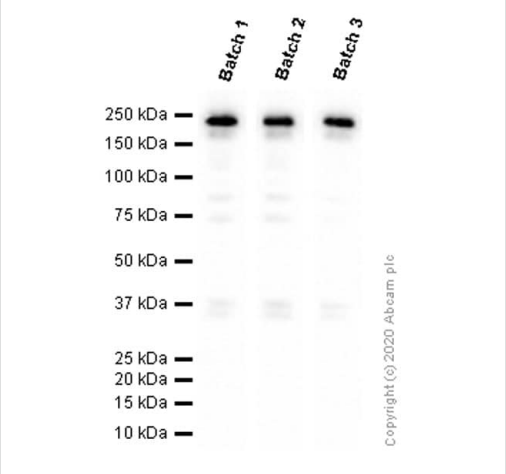


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

Image from Kishi Y et al., PLoS One. 2017;12(12):e0189522. Fig 2.; doi: 10.1371/journal.pone.0189522. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/

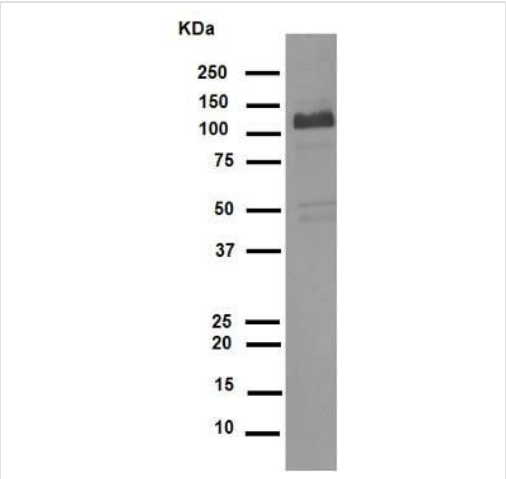
Type I collagen (ab138492) and Type III collagen immunostainings for control, Subtype I, and Subtype II adenomyotic cases.

The type I collagen staining bands for adenomyotic cases were thicker than those of the control uteri, and were seen with more fine muscle bundles. Arrowheads indicate vascular walls. Original magnification: X100. Scale bar = 50μm.



Western blot - Anti-Collagen I antibody [EPR7785] (ab138492)

Different batches of ab138492 were tested on HFF-1 (human skin fibroblast) lysate at 0.5 µg/ml. 15 µg of lysate was loaded in each lane. Bands observed at 220 kDa.



Western blot - Anti-Collagen I antibody [EPR7785] (ab138492)

Anti-Collagen I antibody [EPR7785] (ab138492) at 1/5000 dilution (unpurified) + Human skin tissue lysate at 10 µg

Secondary

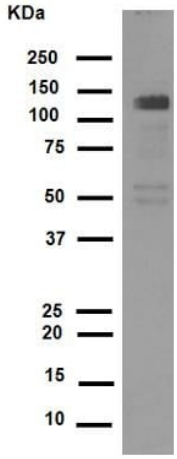
HRP-conjugated anti-rabbit IgG, specific to the non-reduced form of IgG at 1/1000 dilution

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

Frozen, ground tissue samples were added to hot lysis buffer (10 mM Tris-HCl (pH 8.0); 1%SDS; 1.0 mM Na-Orthovanadate), boiled for 10-20 minutes and sonicated (3 seconds, 30 intervals).

The blocking and antibody incubations were performed in 5% non-fat milk (TBST).

The lysate in this image is prepared by 1%SDS Hot lysis method. For Lysate preparation protocol, please refer to the protocol book in the protocol section and/or **here (downloadable copy).**



Western blot - Anti-Collagen I antibody [EPR7785] (ab138492)

Anti-Collagen I antibody [EPR7785] (ab138492) at 1/5000 dilution (purified) + Human skin tissue lysate at 10 µg

Secondary

HRP-conjugated anti-rabbit IgG, specific to the non-reduced form of IgG at 1/5000 dilution

Predicted band size: 139 kDa

Observed band size: 139 kDa

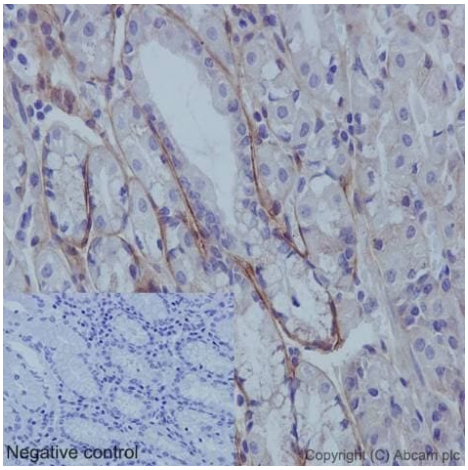
Frozen, ground tissue samples were added to hot lysis buffer (10 mM Tris-HCl (pH 8.0); 1%SDS; 1.0 mM Na-Orthovanadate), boiled for 10-20 minutes and sonicated (3 seconds, 30 intervals).

Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

TBST).

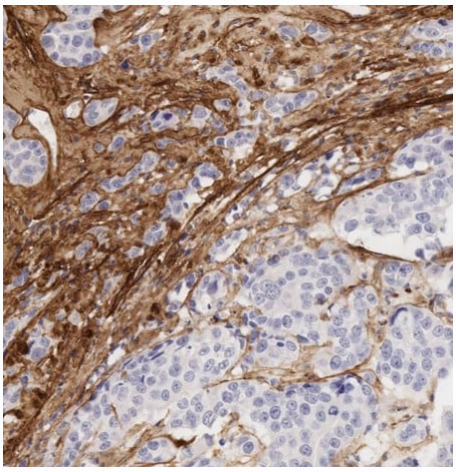
The lysate in this image is prepared by 1%SDS Hot lysis method. For Lysate preparation protocol, please refer to the protocol book in the protocol section and/or **here (downloadable copy).**



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human stomach tissue labelling Collagen I with unpurified ab138492 at 1/1500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody.

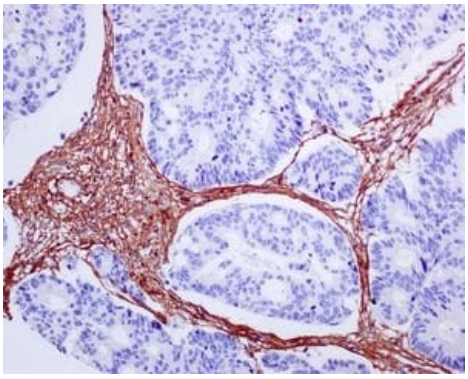
Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

Immunohistochemistry of human breast carcinoma tissue staining Collagen I with ab138492 at 0.5µg/ml.

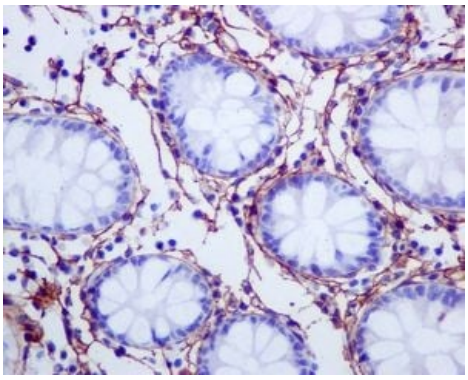
Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

Formalin/PFA-fixed paraffin-embedded sections of human breast carcinoma tissue stained for Collagen I with unpurified ab138492 in immunohistochemical analysis.

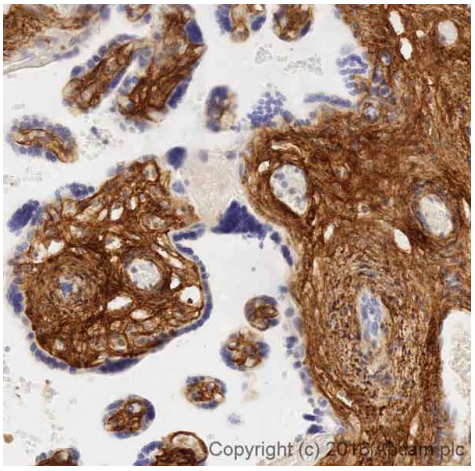
Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

Formalin/PFA-fixed paraffin-embedded sections of human colon tissue staining Collagen I with unpurified ab138492 in immunohistochemical analysis.

Heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 was performed before commencing with IHC staining protocol.

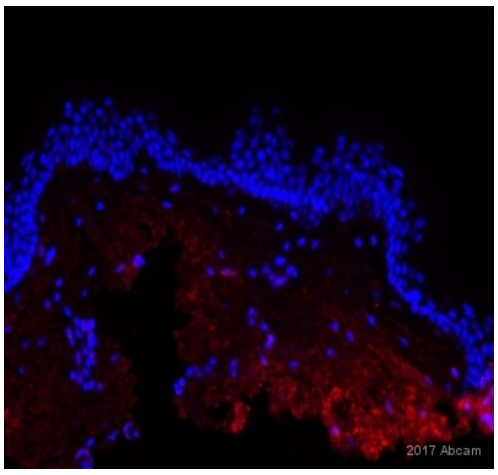


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

IHC image of Collagen I staining in human placenta formalin fixed paraffin embedded tissue section*, performed on a Leica Bond™ system using the standard protocol B. The section was pre-treated using heat mediated antigen retrieval (EDTA based pH 9.0 solution, epitope retrieval solution 2) for 20 minutes. The section was then incubated with ab138492 at 1/1500, for 15 minutes 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.

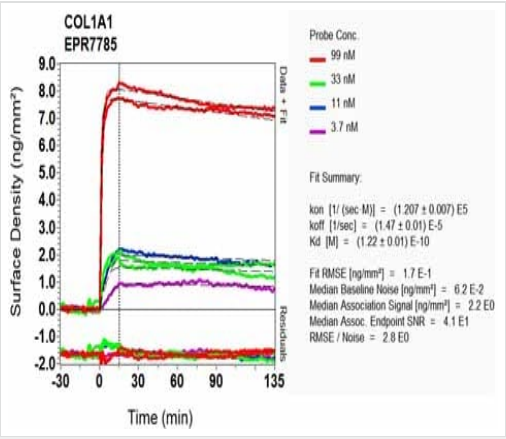
*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen I antibody [EPR7785] (ab138492)

This image is courtesy of an anonymous Abreview.

Paraffin-embedded human skin tissue stained for Collagen I using ab138492 at 1/3000 dilution in immunohistochemical analysis, followed by Goat anti rabbit Alexa Fluor® 555.

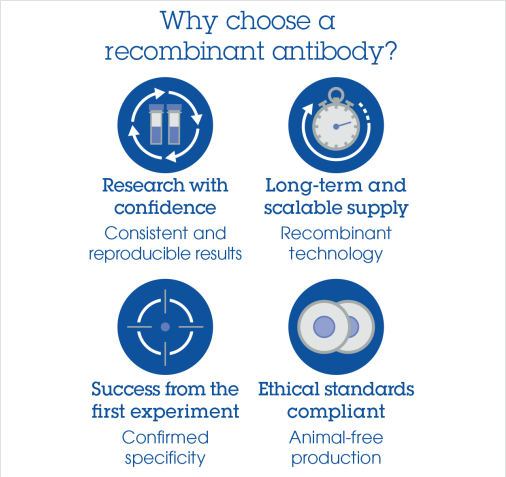


OI-RD Scanning - Anti-Collagen I antibody [EPR7785] (ab138492)

Equilibrium disassociation constant (K_D)

Learn more about K_D

Click here to learn more about K_D



Anti-Collagen I antibody [EPR7785] (ab138492)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.cn/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors