abcam

Product datasheet

Anti-Collagen I antibody [EPR22894-89] ab260043

Recombinant RabMAb

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Overview

Product name	Anti-Collagen I antibody [EPR22894-89]
Description	Rabbit monoclonal [EPR22894-89] to Collagen I
Host species	Rabbit
Specificity	Compared with ab260043, **ab255809** has lower background. We recommend **ab255809** as an alternative for western blotting.
Tested applications	**Suitable for:** WB, IP **Unsuitable for:** Flow Cyt (Intra),ICC/IF or IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: NIH/3T3 culture supernatant, Rat lung organ culture supernatant. Human lung tissue lysate, HFF-1 whole cell lysate and culture supernatant, A549, MDA-MB-231, A431 and SW480 whole cell lysates and MDA-MB-231 supernatant lysate. IP: Mouse lung lysate.
General notes	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**.

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: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified

Clonality	Monoclonal
Clone number	EPR22894-89
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab260043 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	★★★★☆ **(1)**	1/1000. 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. Take care with pH, temperature, and concentration to avoid
IP		1/30.

Application notes Is unsuitable for Flow Cyt (Intra),ICC/IF or 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.

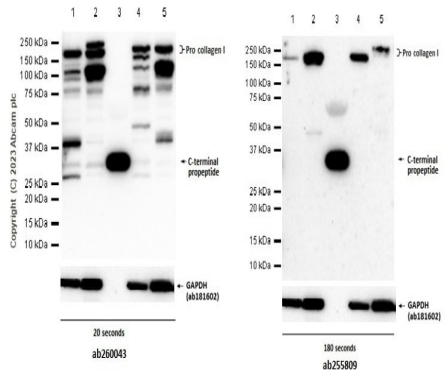
Post-translational modifications

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



Western blot - Anti-Collagen I antibody [EPR22894-89] (ab260043)

All lanes : ab260043 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

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: 220,35 kDa

Blocking buffer and concentration: 5% NFDM/TBST.

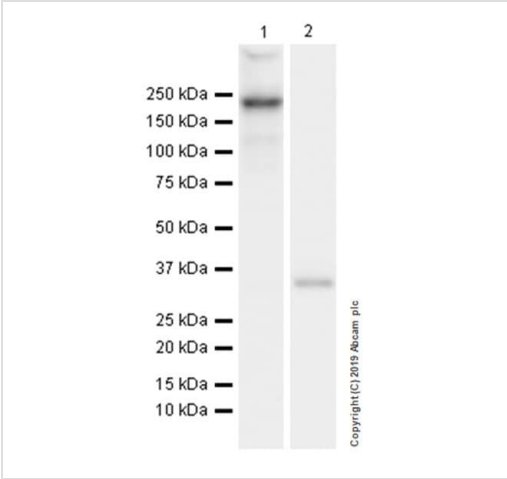
Diluting buffer and concentration: 5% NFDM/TBST.

Exposure Time: ab260043: 20 seconds, **ab255809**: 180 seconds.

ab181602 was used as loading control.

Compared with ab260043, **ab255809** has lower background. We recommend **ab255809** as an alternative for western blotting.

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



Western blot - Anti-Collagen I antibody [EPR22894-89] (ab260043)

All lanes : Anti-Collagen I antibody [EPR22894-89] (ab260043) at 1/5000 dilution

Lane 1 : HFF-1 (human skin fibroblast) whole cell lysate at 20 µg
Lane 2 : HFF-1 culture supernatant at 10 µl

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/25000 dilution

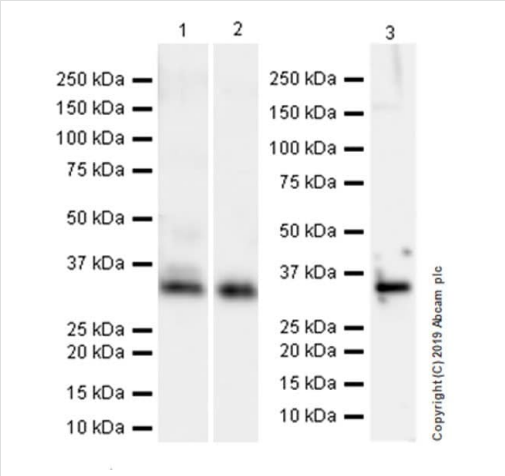
Predicted band size: 139 kDa
Observed band size: 220,35 kDa

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

Procollagen I (220 kDa) and cleaved C-propeptide (35 kDa) are observed.

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

Exposure time: Lane 1: 1 second; Lane 2: 3 seconds.



Western blot - Anti-Collagen I antibody [EPR22894-89] (ab260043)

All lanes : Anti-Collagen I antibody [EPR22894-89] (ab260043) at 1/1000 dilution

Lane 1 : NIH/3T3 (mouse embryonic fibroblast) culture supernatant at 10 µl
Lane 2 : Rat lung organ culture supernatant at 10 µl
Lane 3 : Human lung tissue lysate at 10 µg

Secondary
Lanes 1-2 : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/25000 dilution
Lane 3 : VeriBlot for IP Detection Reagent (HRP) (**ab131366**) at 1/1000 dilution

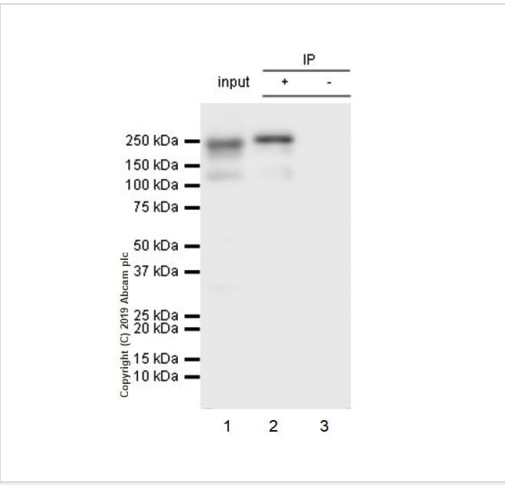
Predicted band size: 139 kDa

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

Cleaved collagen I C-propeptide (35 kDa) is observed.

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

Exposure time: Lanes 1-2: 3 seconds; Lane 3: 136 seconds.



Immunoprecipitation - Anti-Collagen I antibody [EPR22894-89] (ab260043)

Collagen I was immunoprecipitated from 0.35 mg mouse lung lysate 10µg with ab260043 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab260043 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used at 1/1000 dilution.

Lane 1: Mouse lung lysate 10µg

Lane 2: ab260043 IP in mouse lung lysate

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab260043 in mouse lung lysate

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

Exposure time: 1 second.

Anti-Collagen I antibody [EPR22894-89] (ab260043)

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