abcam

Product datasheet

Anti-Collagen I antibody ab34710

★★★★★ **90 Abreviews**   **1342 References**   **1 Image**

Overview

Product name	Anti-Collagen I antibody
Description	Rabbit polyclonal to Collagen I
Host species	Rabbit
Specificity	This product is not recommended for use under denaturing conditions in WB. We would suggest testing it under native conditions. Denaturing and reducing conditions will greatly diminish reactivity and selectivity of this antibody. Abcam does not test ab34710 with endogenous samples in WB. We do recommend to look at the guidelines for blotting large proteins **here**. ab34710 has <5% cross-reactivity with Collagen III Customers have been successful using ab34710 in this application, please see references below (Tillgren V *et al. J Biol Chem* **290**:918-25; 2015). Positive Control: Human stomach, skin and adrenal gland tissue lysates.
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Human
Immunogen	Full length native protein (purified) corresponding to Human Collagen I aa 1-1464. Collagen Type I from human and bovine placenta. Database link: **P02452**
Positive control	WB: human collagen.
General notes	Anti-Collagen I antibody (ab34710) is stable at 4°C as an undiluted liquid. Dilute only prior to immediate use. For extended storage, mix with an equal volume of glycerol, aliquot contents and freeze at -20° C or below. **This collagen antibody was developed using non-denatured 3D epitopes, you must be careful not to denature the collagen protein during your experiment.** **PLEASE READ THESE IMPORTANT PROTOCOL TIPS,** click here for the english version or here for the mandarin version. It is often extremely difficult to generate antibodies with specificities to collagens due to the uninterrupted "Glycine-X-Y" triplet repeat that is a necessary part of the triple helical structure. The development of type specific antibodies is dependent on NON-DENATURED three-dimensional epitopes - this may result in diminished reactivity of some antibodies with denatured collagen or formalin-fixed, paraffin embedded tissues. 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. Please see notes section.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 0.8766% Sodium chloride, 0.42% Potassium phosphate
Purity	Immunogen affinity purified
Purification notes	ab34710 has been prepared by immunoaffinity chromatography using immobilized antigens followed by extensive cross-adsorption against other collagens, human serum proteins and non-collagen extracellular matrix proteins to remove any unwanted specificities. Sterile filtered.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee   Our **Abpromise guarantee** covers the use of ab34710 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	★ ★ ★ ★ ★ **(10)**	1/1000 - 1/10000.

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
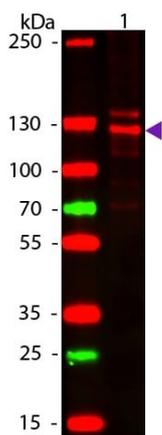
Western blot - Anti-Collagen I antibody (ab34710)

Anti-Collagen I antibody (ab34710) at 1/1000 dilution + Human collagen, 50 ng

Secondary

DyLight™ 649 anti-rabbit secondary antibody at 1:20,000 for 30 min at RT.

DyLight™ 649 anti-rabbit secondary antibody at 1:20,000 for 30 min at RT.

Blocking Buffer for 30 min at room temperature - proprietary protein formulation in TRIS buffered saline at pH 7.6 with thimerosal added as an antimicrobial agent.

Other Band(s): Collagen Type I splice variants and isoforms.

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

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