

Anti-Collagen II/COL2A1 Antibody Picoband®

Catalog Number: A00517-1

About COL2A1

Collagen, type II, alpha 1, also known as COL2A1, is a human gene which is the major collagen synthesized by chondrocytes. COL2A1 is mapped to 12q13.11. This gene encodes the alpha-1 chain of type II collagen, a fibrillar collagen found in cartilage and the vitreous humor of the eye. Mutations in this gene are associated with achondrogenesis, chondrodysplasia, early onset familial osteoarthritis, SED congenita, Langer-Saldino achondrogenesis, Kniest dysplasia, Stickler syndrome type I, and spondyloepimetaphyseal dysplasia Strudwick type. In addition, defects in processing chondrocalcin, a calcium binding protein that is the C-propeptide of this collagen molecule, are also associated with chondrodysplasia.

Overview

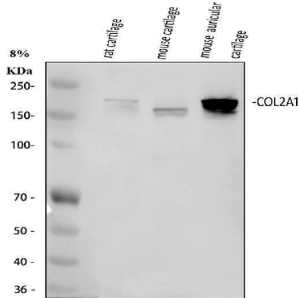
Product Name	Anti-Collagen II/COL2A1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Collagen II/COL2A1 Antibody Picoband® catalog # A00517-1. Tested in WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.01mg NaN ₃ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P02458

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Collagen II, which shares 91.7% and 95.8% amino acid (aa) sequence identity with mouse and rat Collagen II, respectively.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized

Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml

Anti-Collagen II/COL2A1 Antibody Picoband® (A00517-1) Images



Western blot analysis of COL2A1 using anti-COL2A1 antibody (A00517-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: rat cartilage tissue lysates, Lane 2: mouse cartilage tissue lysates, Lane 3: mouse auricular cartilage lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-COL2A1 antigen affinity purified polyclonal antibody (Catalog # A00517-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for COL2A1 at approximately 180-190 kDa. The expected band size for COL2A1 is at 142 kDa.

24 Publications Citing This Product

1. PubMed ID: 10.1177/0963689721993776, Curcumin Supplementation Enhances Bone Marrow Mesenchymal Stem Cells to Promote the Anabolism of Articular Chondrocytes and Cartilage Repair:
2. PubMed ID: 10.1016/j.cbi.2021.109659, Fluoride regulates chondrocyte proliferation and autophagy via PI3K/AKT/mTOR signaling pathway
3. PubMed ID: 10.1093/abbs/gmw125, GPx1 knockdown suppresses chondrogenic differentiation of ATDC5 cells through induction of reductive stress

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