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Anti-CTGF Antibody Picoband®

Catalog Number: PB9541

About CTGF

CTGF, also known as CCN2 or connective tissue growth factor, is a matricellular protein of the CCN family of extracellular matrix-associated heparin-binding proteins (see also CCN intercellular signaling protein). CTGF has important roles in many biological processes, including cell adhesion, migration, proliferation, angiogenesis, skeletal development, and tissue wound repair, and is critically involved in fibrotic disease and several forms of cancers. The protein encoded by this gene is a mitogen that is secreted by vascular endothelial cells. And the encoded protein plays a role in chondrocyte proliferation and differentiation, cell adhesion in many cell types, and is related to platelet-derived growth factor. Certain polymorphisms in this gene have been linked with a higher incidence of systemic sclerosis.

Overview

Product Name	Anti-CTGF Antibody Picoband®
Reactive Species	Human, Rat
Description	Boster Bio Anti-CTGF Antibody Picoband® catalog # PB9541. Tested in IHC, WB applications. This antibody reacts with Human, 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	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na2HPO4, and 0.05 mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
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	P29279

Technical Details

Immunogen	E.coli-derived human CTGF recombinant protein (Position: R58-A349). Human CTGF shares 95.5% and 95.9% amino acid (aa) sequence identity with mouse and rat CTGF, respectively.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western

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	blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
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	Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human Western blot, 0.1-0.5ug/ml, Human, Rat

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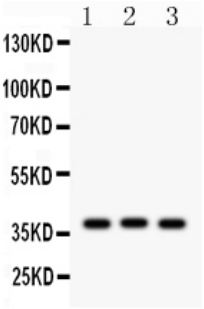
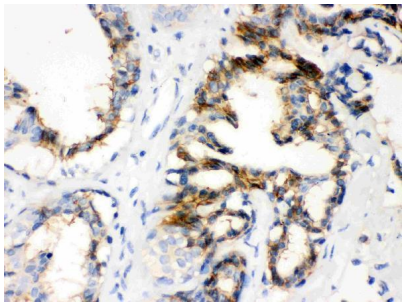
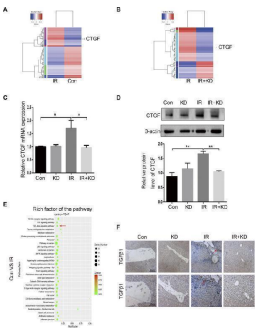
Anti-CTGF Antibody Picoband® (PB9541) Images



Western blot analysis of CTGF using anti-CTGF antibody (PB9541). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. Lane 1: Rat Liver Tissue Lysate at 50ug, Lane 2: Rat Thymus Tissue Lysate at 50ug, Lane 3: HELA Whole Cell Lysate at 40ug. 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-CTGF antigen affinity purified polyclonal antibody (Catalog # PB9541) 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 CTGF at approximately 38 kDa. The expected band size for CTGF is at 38 kDa.



IHC analysis of CTGF using anti-CTGF antibody (PB9541). CTGF was detected in a paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-CTGF Antibody (PB9541) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



The key fibrosis-related gene and signaling pathway that are inhibited by KD (A) The results of high-throughput sequencing of the transcriptome showed that the expression of CTGF gene increased after irradiation (B) The results of high-throughput sequencing of the transcriptome showed that the expression of CTGF gene decreased after the administration of KD (C) The results of Real-Time PCR were consistent with the results of the sequencing. The expression of CTGF mRNA increased in the IR group, but decreased in the IR + KD group (D) The results of western blotting were consistent with the results of sequencing. The expression of CTGF protein increased in the IR group, but decreased in the IR + KD group (E) In the transcriptome KEGG gene pathway enrichment map, the TGF-beta pathway was closely related to CTGF and RILF (F) The results of tissue TGF-beta1 immunohistochemistry indicated that in the IR + KD group the expression of TGF-beta1 in the liver tissue decreased compared with the IR group. For all results in this figure, original magnification, ×40 and ×100. Mean ± SEM. * $p < 0.05$, ** $p < 0.01$.Index in PubMed under a CC BY license. PMID: 35126163

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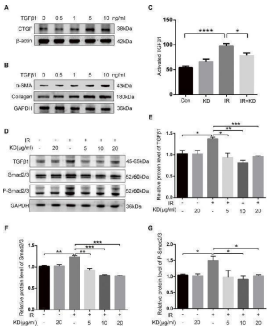
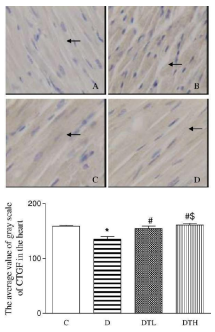


KD ameliorates the RILF by inhibiting TGF-beta1/Smad/CTGF pathway (A) Exogenous TGF-beta1 led to the increased expression of CTGF protein (B) Exogenous TGF-beta1 induced an increase in the expression of collagen and a -SMA proteins (C) The TGF-beta1 activity in the conditioned media significantly increased after 6Gy irradiation compared with the control group, while the TGF-beta1 activity in the conditioned media in the IR + KD group decreased compared with the IR group (D-G) The expressions of TGF-beta1 and downstream Smad2/3 as well as phosphorylated Smad2/3 reduced in the IR + KD group compared with the IR group. Mean ± SEM. * p < 0.05, ** p < 0.01, *** p < 0.001, **** p < 0.0001.Index in PubMed under a CC BY license. PMID: 35126163



Top panel: representative slides showing immunohistochemical staining of connective tissue growth factor (CTGF) (stained in brown as shown by arrow) in the myocardium. Slides A , B , C , D represent control, diabetic, diabetic treated with low dose (2 ug · kg −1 .d −1) of exenatide and diabetic treated with high dose (10 ug · kg −1 .d −1) of exenatide, respectively. Magnifications × 400. Bottom: bar graph shows quantitative analysis of myocardial CTGF expression in control, diabetic and diabetic treated with low (2 ug · kg −1 .d −1) or high (10 ug · kg −1 .d −1) dose of exenatide. The CTGF expression was quantified using the average value of gray scale which had an inverse proportion to the positive stained intensity. Control (C, n = 7), diabetic (D, n = 10), diabetic treated with low dose (2 ug · kg −1 .d −1) of exenatide (DTL, n = 10), diabetic treated with high dose (10 ug · kg −1 .d −1) of exenatide (DTH, n = 9). Data are expressed as mean ± S.E.M. *P<0.05 different from control, # P<0.05 different from diabetic, $ P<0.05 different from diabetic treated with low dose (2 ug · kg −1 .d −1) of exenatide. Index in PubMed under a CC BY license. PMID: 24576329

23 Publications Citing This Product

1. PubMed ID: 33314748, Xu Q,Liu M,Zhang F,Liu X,Ling S,Chen X,Gu J,Ou W,Liu S,Liu N. Ubiquitin-specific protease 2 regulates Ang -induced cardiac fibroblasts activation by up-regulating cyclin D1 and stabilizing beta-catenin in vitro. J Cell Mol Med.2020 Dec 12.doi:10.1111/jcmm.1

2. PubMed ID: 15579446, Advanced Glycation End-Products Induce Connective Tissue Growth Factor-Mediated Renal Fibrosis Predominantly through Transforming Growth Factor ?-Independent Pathway

3. PubMed ID: 24312656, Wen D, Huang X, Zhang M, Zhang L, Chen J, Gu Y, Hao Cm. Plos One. 2013 Dec 3;8(12):E82336. Doi: 10.1371/Journal.Pone.0082336. Ecollection 2013. Resveratrol Attenuates Diabetic Nephropathy Via Modulating Angiogenesis.

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Anti-CTGF Antibody

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