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Anti-CD44 antigen CD44 Antibody Picoband®

Catalog Number: PA1021-2

About CD44

The CD44 gene, which is a transmembrane protein, is expressed as a family of molecular isoforms generated from alternative RNA splicing and posttranslational modifications. The gene, which contains 19 exons spanning some 50 kb of genomic DNA, is a widely expressed integral membrane protein that acts as a receptor for hyaluronan (HA) and is important to cell-extracellular matrix interaction. CD44 binding with HA can play an important role in cellular aggregation and tumor cell growth. CD44 is necessary for limb development and functions in a novel growth factor presentation mechanism. A specific CD44 splice variant is crucial for the proliferation of these mesenchymal cells. CD44 glycoproteins are involved in leukocyte extravasation but also in the regulation of growth factor activation, stability, and signaling. Moreover, it plays a pivotal role in arteriogenesis.

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Overview

Product Name	Anti-CD44 antigen CD44 Antibody Picoband®
Reactive Species	Human, Rat
Description	Boster Bio Anti-CD44 antigen CD44 Antibody catalog # PA1021-2. Tested in Flow Cytometry, 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	Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
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	P16070

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human CD44, different from

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	the related mouse and rat sequences by one amino acid.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western 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	Western blot, 0.1-0.5ug/ml, Human, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Rat Flow Cytometry (Fixed), 1-3 ug/1x10^6 cells, Human Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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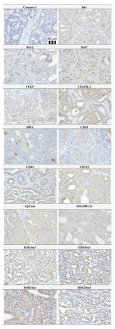
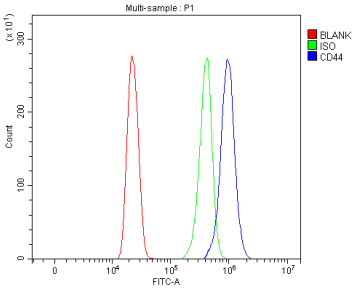
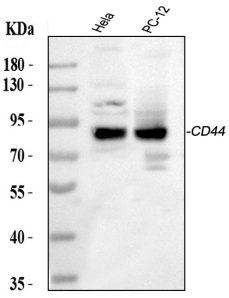
Anti-CD44 antigen CD44 Antibody Picoband® (PA1021-2) Images



Representative pictures of caspase-3, Bax, Bcl-2, Ki67, VEGFA, VEGFR-2, MDA, CD24, CD44, ALDH1A1, EpCam, H3K4m3, H3K9m3, H4K20m3, and H4K16ac expressions gained from rat BC samples. For analysis, polyclonal caspase-3 antibody (Bioss, Woburn, USA), polyclonal Bax and Bcl-2 antibodies (Santa Cruz Biotechnology, Paso Robles, CA, USA), monoclonal Ki67 antibody (Dako, Glostrup, Denmark), monoclonal VEGFA and VEGFR-2 antibodies (Santa Cruz Biotechnology, Paso Robles, CA, USA), polyclonal CD24 antibody (GeneTex, Irvine, CA, USA), polyclonal CD44 antibody (Boster, Pleasanton, CA, USA), polyclonal ALDH1A1 antibody (ThermoFisher, Rockford, IL, USA), polyclonal MDA, EpCAM, H3K4m, H3K9m3, and H4K20m3 antibodies (Abcam, Cambridge, MA, USA), and monoclonal H4K16ac antibody (Abcam, Cambridge, MA, USA) were applied. The final microscope magnification of ×400 was used.Index in PubMed under a CC BY license. PMID: 38464730



Flow Cytometry analysis of HL-60 cells using anti-CD44 antibody (PA1021-2). Overlay histogram showing HL-60 cells stained with PA1021-2 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CD44 Antibody (PA1021-2, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of CD44 using anti-CD44 antibody (PA1021-2). 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: human Hela whole cell lysates, Lane 2: rat PC-12 whole cell 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-CD44 antigen affinity purified polyclonal antibody (Catalog # PA1021-2) 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 CD44 at approximately 82 kDa. The expected band size for CD44 is at 82 kDa.

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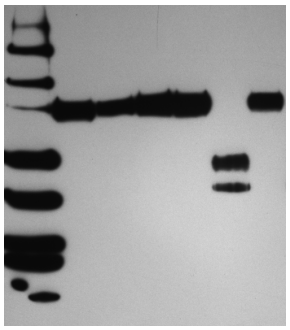
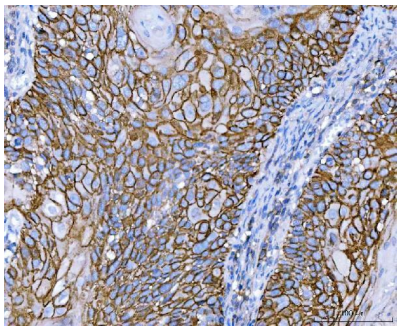
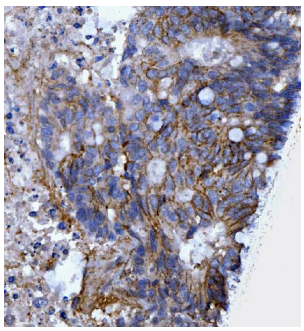


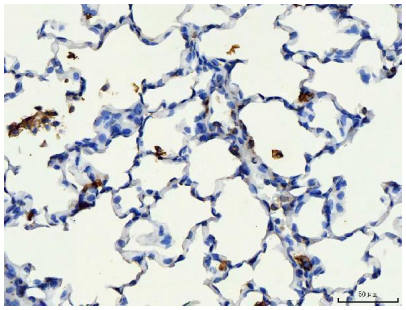
Western blot analysis of CD44 using anti-CD44 antigen CD44 antibody (PA1021-2). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% milk in PBS/0.05% Tween-20 (5% milk/PBS/Tw) for 1.5 hour at RT. The membrane was incubated with rabbit anti-CD44 antigen CD44 antibody (PA1021-2) at 1 ug/ml in 5% milk/BPS/Tw 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 at 1:3,000 in 5% milk/PBS/Tw for 1.5 hour at RT. The signal is developed using a chemiluminescence: West Pico from Thermo Scientific. A specific band was detected for CD44 at approximately 81 kDa. The expected band size for CD44 is at 81 kDa.



IHC analysis of CD44 using anti-CD44 antibody (PA1021-2). CD44 was detected in a paraffin-embedded section of human laryngeal squamous cell carcinoma 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 2 ug/ml rabbit anti-CD44 Antibody (PA1021-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of CD44 using anti-CD44 antibody (PA1021-2). CD44 was detected in a paraffin-embedded section of human rectal 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 2 ug/ml rabbit anti-CD44 Antibody (PA1021-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of CD44 using anti-CD44 antibody (PA1021-2). CD44 was detected in a paraffin-embedded section of rat lung 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 2 ug/ml rabbit anti-CD44 Antibody (PA1021-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG

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Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

35 Publications Citing This Product

1. PubMed ID: 10.3390/ijms22010183, Rhus coriaria L. (Sumac) Demonstrates Oncostatic Activity in the Therapeutic and Preventive Model of Breast Carcinoma

2. PubMed ID: 10.3892/ol.2016.4270, CD44 promotes the migration of bone marrow-derived mesenchymal stem cells toward glioma

3. PubMed ID: 10.3892/ol.2019.11087, Clinical prognostic significance of cancer stem cell markers in patients with papillary thyroid carcinoma

Visit bosterbio.com/anti-cd44-antigen-cd44-antibody-pa1021-2-boster.html to see all 35 publications.

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