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antibody and ELISA experts

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Anti-CD23/FCER2 Antibody Picoband®

Catalog Number: PB9051

About Fcer2

CD23, also known as Fc epsilon RII, or FcepsilonRII, is the "low-affinity" receptor for IgE, an antibody isotype involved in allergy and resistance to parasites, and is important in regulation of IgE levels. There are two forms of CD23: CD23a and CD23b. CD23a is present on follicular B cells, whereas CD23b requires IL-4 to be expressed on T-cells, monocytes, Langerhans cells, eosinophils, and macrophages. As part of a mapping of multiple probes to specific bands on chromosome 19 by fluorescence in situ hybridization, the FCE2 gene was assigned to 19p13.3. CD23 (FCE2) is a key molecule for B-cell activation and growth. It is the low-affinity receptor for IgE. The truncated molecule can be secreted, then functioning as a potent mitogenic growth factor.

Overview

Product Name	Anti-CD23/FCER2 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-CD23/FCER2 Antibody Picoband® catalog # PB9051. Tested in ELISA, Flow Cytometry, IF, IHC, IHC-F, ICC, 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	Flow Cytometry, IF, IHC, IHC-F, ICC, WB, ELISA (Cap)
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg 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	P20693

Technical Details

Immunogen	E.coli-derived mouse CD23 recombinant protein (Position: E50-P331). Mouse CD23 shares 52% amino acid (aa) sequence identity with human CD23.
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), IHC(F) and ICC.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG

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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, Mouse, Rat Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Mouse Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Immunocytochemistry, 0.5-1ug/ml, Human Immunofluorescence, 2ug/ml, Mouse, Rat Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Mouse ELISA (Cap), 1-5ug/ml, Mouse

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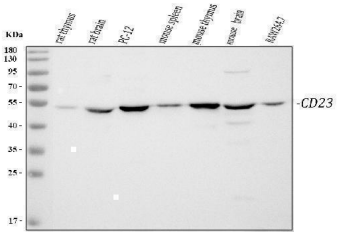
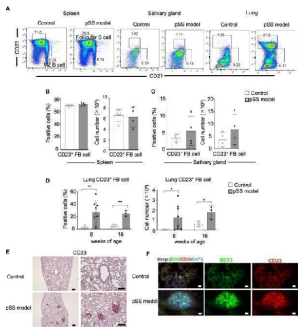
Anti-CD23/FCER2 Antibody Picoband® (PB9051) Images



Western blot analysis of CD23 using anti-CD23 antibody (PB9051). 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 thymus tissue lysates, Lane 2: rat brain tissue lysates, Lane 3: rat PC-12 whole cell lysates, Lane 4: mouse spleen tissue lysates, Lane 5: mouse thymus tissue lysates, Lane 6: mouse brain tissue lysates, Lane 7: mouse RAW264.7 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-CD23 antigen affinity purified polyclonal antibody (Catalog # PB9051) 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 CD23 at approximately 49 kDa. The expected band size for CD23 is at 36 kDa.



FB cells in pSS model mice. (A) F (CD23 + CD21 −) and MZ (CD23 − CD21 +) B cells among the CD19 + cells identified in the spleen, the salivary glands, and the lungs of 10-week-old control and pSS model. Representative results are shown. (B) Proportions and numbers of follicular B cells in the spleen of 10-week-old control mice and pSS model mice. Data are presented as mean ± SD of four to five mice per group. (C) Proportions and numbers of follicular B cells in the salivary gland tissues of 12-week-old control and SS model mice. Data are presented as mean ± SD of four mice per group. (D) Population of follicular B cells in the lungs of 8- and 16-week-old control mice and SS model mice. Data are presented as mean ± SD of three to eight mice per group. * $p < 0.05$, ** $p < 0.01$. (E) CD23 + cells were detected through immunohistochemical analysis by using lung sections of 8-week-old control and SS model mice. Scale bar: 100 um. (F) B220 + B cells and CD23 + cells were detected through immunofluorescence analysis by using lung sections obtained from 8-week-old control and pSS model mice. Nuclei were stained with DAPI. Scale bar: 50 um.Index in PubMed under a CC BY license. PMID: 37475871

CD23 + B-cell differentiation via IL-4 in the lungs of the pSS model mice. (A) Il4 mRNA expressions were analyzed through qRT-PCR, by using spleen and lung tissues of 8-week-old control and SS model mice. Data are presented as mean ± SD of four mice per group. * $p < 0.05$. (B) Gata3 (upper panel) and Tbx21 (lower panel) mRNA expressions were analyzed through qRT-PCR, by using spleen, salivary gland, and lung tissues of 8-week-old control and SS model

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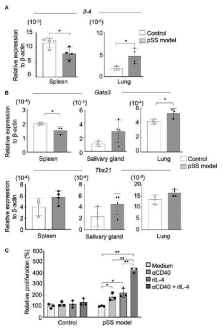
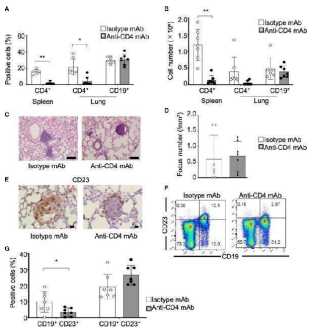
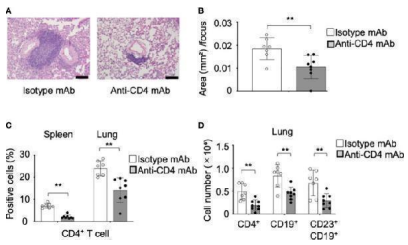


mice. Data are presented as mean ± SD of three to four mice per group. * p < 0.05. (C) CD19 + B cells isolated from the lungs of control and SS model mice were stimulated in vitro with an anti-CD40 mAb (5 μg/ml) and recombinant IL-4 (100 ng/ml) for 7 days. The relative cell number of CD23 + B cells to the unstimulated cells was evaluated. Data are presented as mean ± SD of triplicates per group. * p < 0.05, ** p



CD23 + FB cell differentiation within the lungs of anti-CD4 mAb-treated pSS model mice. (A) Anti-CD4 mAb was intraperitoneally administered to pSS model mice between their sixth to eighth week of their lives. We assessed the proportions of CD4 + T cells in the spleen and of CD4 + T and CD19 + B cells in the lungs of isotype control mAb-treated and of anti-CD4 mAb-treated pSS model mice. Data are presented as mean ± SD of seven mice per group. * p < 0.05. (B) Number of CD4 + T cells in the spleen and of CD4 + T and CD19 + B cells in the lungs of isotype control mAb- and of anti-CD4 mAb-treated pSS model mice. Data are presented as mean ± SD of seven mice per group. ** p < 0.01. (C) Pulmonary lesions in anti-CD4 mAb-treated pSS model mice were histologically evaluated. Representative images of HE-stained lung tissues sections of isotype control mAb-treated and anti-CD4 mAb-treated pSS model mice. Scale bar: 100 um. (D) The number of foci in the pulmonary lesions was counted by using HE-stained sections. Data are presented as mean ± SD of seven mice per group. (E) CD23 + cells in the pulmonary lesions were evaluated immunohistochemically. Representative images are shown for each group. Scale bar: 100 um. (F) CD23 + CD19 + FB cells and CD23 − CD19 + B cells were evaluated through flow cytometric analysis by using lung tissues. Representative results are shown for each group. (G) The proportions of CD23 + CD19 + FB cells and of CD23 − CD19 + B cells were analyzed through flow cytometry. Data are presented as mean ± SD of seven mice per group. * p < 0.05.Index in PubMed under a CC BY license. PMID: 37475871



Preventive effect of the anti-CD4 mAb in the pulmonary lesions of pSS model mice. (A) Anti-CD4 mAb was intraperitoneally administered to pSS model mice between their fourth to sixth week of their lives. Pulmonary lesions in anti-CD4 mAb-treated pSS model mice were histologically evaluated. Representative images of HE-stained lung tissues sections of isotype control mAb-treated and anti-CD4 mAb-treated pSS model mice. Scale bar: 100 um. (B) The area of foci in the pulmonary lesions was measured by using HE-stained sections. Data are presented as mean ± SD of seven to eight mice per group. ** p

IHC analysis of CD23 using anti-CD23 antibody (PB9051). CD23 was detected in paraffin-embedded section of Mouse

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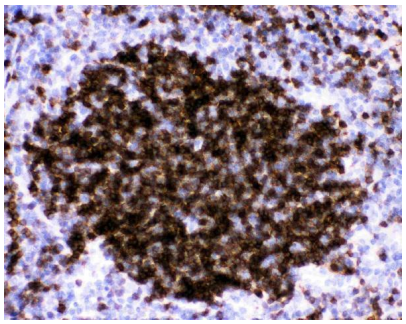
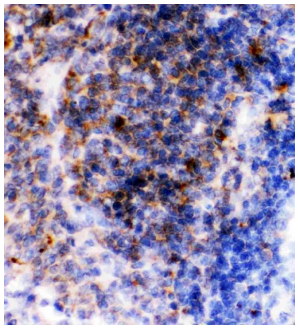
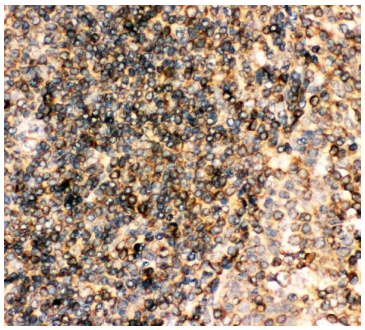


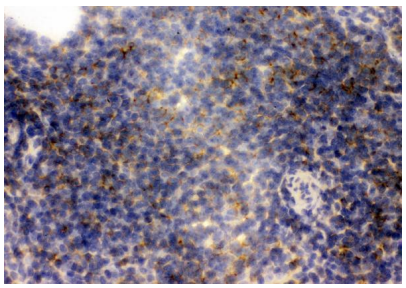
Spleen Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CD23 Antibody (PB9051) overnight at 4°C. Biotinylated goat anti-rabbit 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.



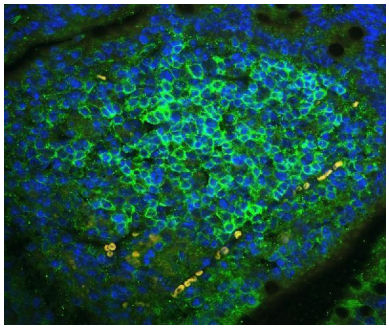
IHC analysis of CD23 using anti-CD23 antibody (PB9051). CD23 was detected in paraffin-embedded section of Rat Spleen Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CD23 Antibody (PB9051) 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.



IHC analysis of CD23 using anti-CD23 antibody (PB9051). CD23 was detected in paraffin-embedded section of Human Tonsil Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CD23 Antibody (PB9051) 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.



IHC analysis of CD23 using anti-CD23 antibody (PB9051). CD23 was detected in frozen section of mouse spleen tissues. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CD23 Antibody (PB9051) 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.



IF analysis of CD23 using anti-CD23 antibody (PB9051) CD23 was detected in paraffin-embedded section of mouse lymphaden tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/mL rabbit anti-CD23 Antibody (PB9051) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was

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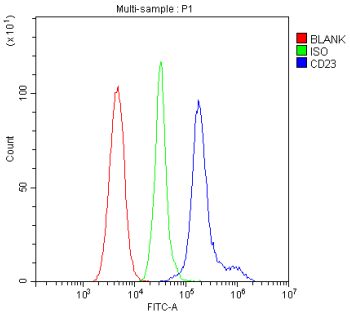
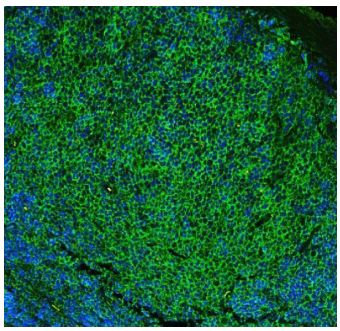
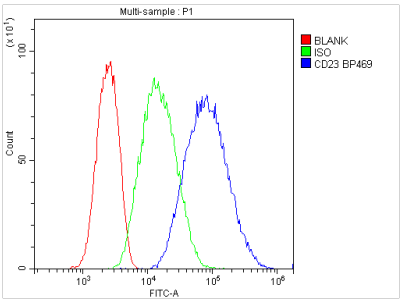
counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



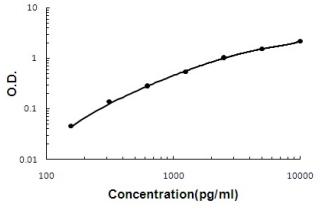
Flow Cytometry analysis of mouse PBMC cells using anti-CD23 antibody (PB9051). Overlay histogram showing mouse PBMC cells stained with PB9051 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CD23 Antibody PB9051,1ug/1x106 cells) for 30 min at 20°C. DyLight488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



IF analysis of CD23 using anti-CD23 antibody (PB9051) CD23 was detected in paraffin-embedded section of rat lymphaden tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/mL rabbit anti-CD23 Antibody (PB9051) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry analysis of mouse BMC cells using anti-CD23 antibody (PB9051). Overlay histogram showing mouse BMC cells stained with PB9051 (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-CD23 Antibody (PB9051,1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Sandwich ELISA - Recombinant mouse CD23/FCER2 protein standard curve. Use in combination with reagents from Mouse CD23/FCER2 ELISA Kit EZ-Set (DIY Antibody Pairs) (EZ0924).

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Anti-CD23/FCER2 Antibody

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