

Anti-CD45/Ptprc Antibody Picoband®

Catalog Number: A00555-4

About Ptprc

CD45(Cluster of Differentiation 45), also known as PTPRC, LCA or CD45R, is an enzyme that, in humans, is encoded by the PTPRC gene. CD45 is a member of the protein tyrosine phosphatase (PTP) family. CD45 is a major high molecular mass leukocyte cell surface molecule which is also an integral membrane protein tyrosine phosphatase. The cytogenetic location of CD45 is 1q31.3-q32.1. CD45 is especially a prototype for transmembrane protein-tyrosine phosphatase (PTP). Targeted disruption of the CD45 gene leads to enhanced cytokine and interferon receptor-mediated activation of JAKs and STAT proteins. In vitro, CD45 directly dephosphorylates and binds to JAKs. Functionally, CD45 negatively regulates interleukin-3-mediated cellular proliferation, erythropoietin-dependent hematopoiesis, and antiviral responses in vitro and in vivo. CD45 has been best studied in T cells, where it determines T cell receptor signaling thresholds. CD45 is moved into or out of the immunological synapse (IS) membrane microdomain depending on the relative influence of interaction with the extracellular galectin lattice or the intracellular actin cytoskeleton. Galectin interaction can be finetuned by varying usage of the heavily Oglycosylated spliced regions and sialylation of Nlinked carbohydrates.

Overview

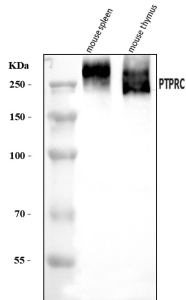
Product Name	Anti-CD45/Ptprc Antibody Picoband®
Reactive Species	Mouse, Rat
Description	Boster Bio Anti-CD45/Ptprc Antibody Picoband® catalog # A00555-4. Tested in ELISA, IF, IHC, ICC, WB applications. This antibody reacts with Mouse, Rat. The brand Picoband indicates this is a premium antibody that 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	ELISA, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
Storage Instructions	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 freezing and thawing.
Host	Rabbit
Uniprot ID	P06800

Technical Details

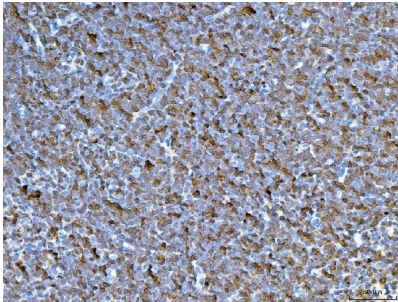
Immunogen	E.coli-derived mouse CD45/Ptprc recombinant protein (Position: N209-E1269).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.

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, 0.25-0.5 ug/ml, Mouse Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Mouse, Rat Immunocytochemistry/Immunofluorescence, 5 ug/ml, Mouse ELISA, 0.1-0.5 ug/ml, -

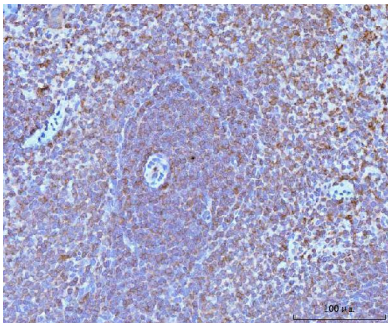
Anti-CD45/Ptprc Antibody Picoband® (A00555-4) Images



Western blot analysis of CD45/Ptprc using anti-CD45/Ptprc antibody (A00555-4). 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: mouse spleen tissue lysates, Lane 2: mouse thymus tissue 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-CD45/Ptprc antigen affinity purified polyclonal antibody (Catalog # A00555-4) 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 CD45/Ptprc at approximately 250 kDa. The expected band size for CD45/Ptprc is at 145 kDa.

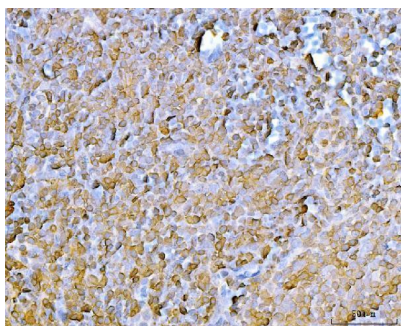


IHC analysis of CD45/Ptprc using anti-CD45/Ptprc antibody (A00555-4). CD45/Ptprc was detected in a paraffin-embedded section of rat lymph node tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CD45/Ptprc Antibody (A00555-4) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

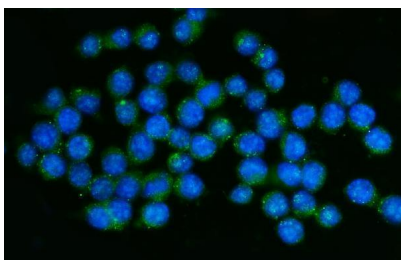


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IF analysis of CD45/Ptprc using anti-CD45/Ptprc antibody (A00555-4). CD45/Ptprc was detected in an immunocytochemical section of RAW264.7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2 ug/mL rabbit anti-CD45/Ptprc Antibody (A00555-4) overnight at 4°C. DyLight488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:500 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.

4 Publications Citing This Product

1. PubMed ID: 10.1371/journal.pone.0148536, Zinc Prevents Abdominal Aortic Aneurysm Formation by Induction of A20-Mediated Suppression of NF-kappaB Pathway
2. PubMed ID: 10.1007/s10616-018-0188-6, Co-cultured the MSCs and cardiomyocytes can promote the growth of cardiomyocytes
3. PubMed ID: 10.1002/cbf.1523, Inhibitory effect of mesenchymal stem cells on lymphocyte proliferation

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Anti-CD45/Ptprc Antibody

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