

## Anti-CD45/PTPRC Antibody

Catalog Number: PA1596

### 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 O-glycosylated spliced regions and sialylation of N-linked carbohydrates.

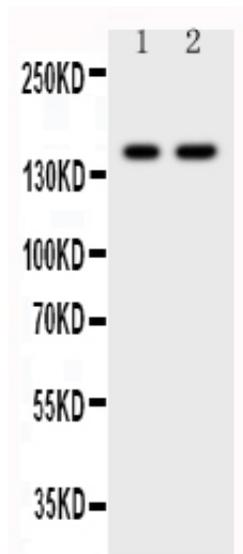
### Overview

Product Name	Anti-CD45/PTPRC Antibody
Reactive Species	Human
Description	Rabbit IgG polyclonal antibody for Receptor-type tyrosine-protein phosphatase C (PTPRC) detection. Tested with WB, IHC-P, ICC, IF in Human.
Application	IF, IHC-P, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na <sub>2</sub> HPO <sub>4</sub> , 0.05mg Thimerosal, 0.05mg NaN <sub>3</sub> .
Storage Instructions	At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.
Host	Rabbit
Uniprot ID	P08575

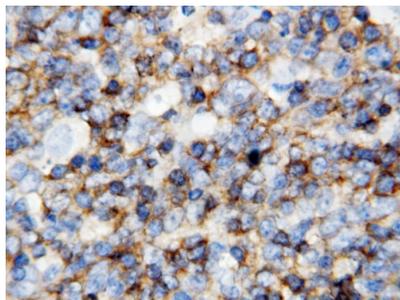
### Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human CD45(1209-1227aa MVSTFEQYQFLYDVIASTY).
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	N/A
Form	Lyophilized
Concentration	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5µg/ml, Human Immunohistochemistry(Paraffin-embedded Section), 0.5-1µg/ml, Human, By Heat Immunocytochemistry , 0.5-1µg/ml, Human, - Immunofluorescence, 2µg/ml, Human, -  For protocols please visit <a href="https://www.bosterbio.com/protocol-and-troubleshooting/">https://www.bosterbio.com/protocol-and-troubleshooting/</a>

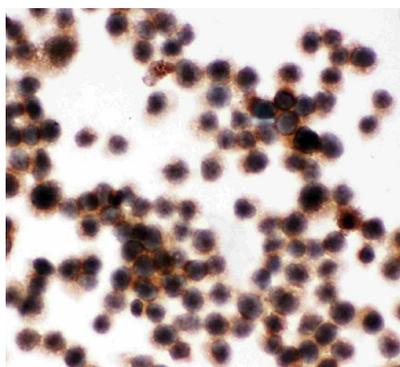
## Anti-CD45/PTPRC Antibody (PA1596) Images



Anti-CD45 antibody, PA1596, Western blotting  
All lanes: Anti CD45 (PA1596) at 0.5ug/ml  
Lane 1: JURKAT Whole Cell Lysate at 40ug  
Lane 2: CEM Whole Cell Lysate at 40ug  
Predicted bind size: 147KD  
Observed bind size: 147KD



Anti-CD45 antibody, PA1596, IHC(P)  
IHC(P): Human Tonsil Tissue



Anti-CD45 antibody, PA1596, ICC  
ICC: JURKAT Cell

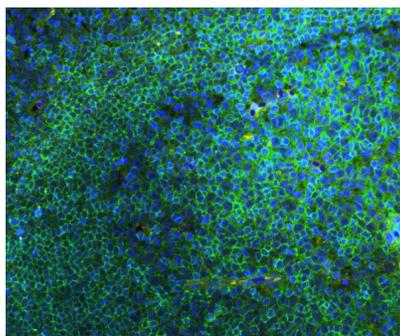


Figure 4. IF analysis of CD45 using anti- CD45 antibody (PA1596)  
CD45 was detected in paraffin-embedded section of human tonsil tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution ) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 $\mu$ g/mL rabbit anti- CD45 Antibody (PA1596) overnight at 4 $^{\circ}$ C. DyLight $^{\circ}$ 488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37 $^{\circ}$ C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

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