

bs-0522R**[Primary Antibody]****PTPRC | CD45 Rabbit pAb****Bioss**
ANTIBODIES

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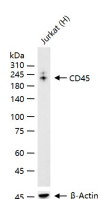
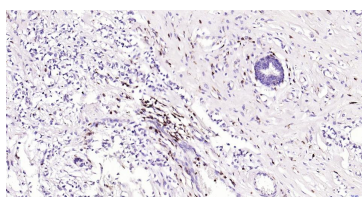
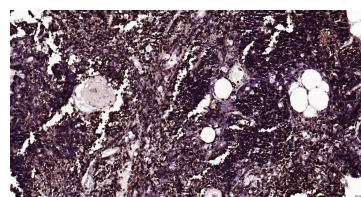
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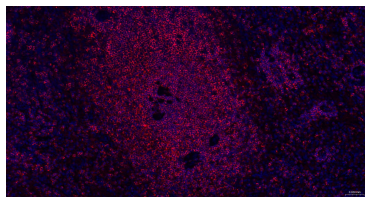
— DATASHEET —**Host:** Rabbit**Isotype:** IgG**Clonality:** Polyclonal**GeneID:** 5788**SWISS:** P08575**Target:** PTPRC | CD45**Immunogen:** KLH conjugated synthetic peptide derived from human CD45: 1210-1304/1304. < Cytoplasmic >**Purification:** affinity purified by Protein A**Concentration:** 1mg/ml**Storage:** 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Background: The protein encoded by this gene is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. This PTP contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and thus belongs to receptor type PTP. This gene is specifically expressed in hematopoietic cells. This PTP has been shown to be an essential regulator of T- and B-cell antigen receptor signaling. It functions through either direct interaction with components of the antigen receptor complexes, or by activating various Src family kinases required for the antigen receptor signaling. This PTP also suppresses JAK kinases, and thus functions as a regulator of cytokine receptor signaling. CD45 (LCA, leukocyte common antigen) is a receptor-type protein tyrosine phosphatase (PTP) ubiquitously expressed in all nucleated hematopoietic cells, comprising approximately 10% of all surface proteins in lymphocytes. CD45 is absent on non-hematopoietic cell lines, normal and malignant, non-hematopoietic tissues. CD45 glycoprotein is crucial in lymphocyte development and antigen signaling, serving as an important regulator of Src-family kinases. CD45 protein exists as multiple isoforms as a result of alternative splicing, differ in their extracellular domains but share identical transmembrane and cytoplasmic domains. CD45RA is an isoform of the CD45 complex and has restricted expression between different subtypes of lymphoid cells. CD45 isoforms differ in their ability to translocate into the glycosphingolipid-enriched membrane domains and their expression depends on cell type and physiological state of the cell. CD45 has been shown to be an essential regulator of T- and B-cell antigen receptor signaling and suppresses JAK kinases to regulate cytokine receptor signaling. CD45 is also important in promoting cell survival by modulating integrin-mediated signal transduction pathway, DNA fragmentation during apoptosis and inhibition or upregulation of various immunological functions.

Applications: **WB** (1:500-2000)
IHC-P (1:100-800)
IHC-F (1:100-800)
IF (1:100-800)
ICC/IF (1:50-200)**Reactivity:** Human**Predicted MW.:** 143 kDa**Observed MW.:** 220 kDa**Subcellular Location:** Cell membrane**— VALIDATION IMAGES —**25 ug total protein per lane of various lysates
(see on figure) probed with CD45 polyclonalParaformaldehyde-fixed, paraffin embedded
Human Breast Cancer; Antigen retrieval byParaformaldehyde-fixed, paraffin embedded
Human Thymus; Antigen retrieval by boiling in

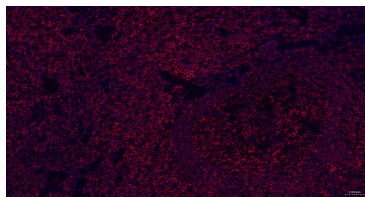
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antibody, unconjugated (bs-0522R) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.



Paraformaldehyde-fixed, paraffin embedded Human Spleen; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with CD45 Polyclonal Antibody, Unconjugated (bs-0522R) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (Red, bs-0295G-BF594), DAPI (blue, C02-04002) was used to stain the cell nuclei.

boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CD45 Polyclonal Antibody, Unconjugated (bs-0522R) at 1:200 overnight at 4°C, followed by conjugation to the bs-0295G-HRP and DAB (C-0010) staining.



Paraformaldehyde-fixed, paraffin embedded Human Tonsil; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with CD45 Polyclonal Antibody, Unconjugated (bs-0522R) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (Red, bs-0295G-BF594), DAPI (blue, C02-04002) was used to stain the cell nuclei.

sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with CD45 Polyclonal Antibody, Unconjugated (bs-0522R) at 1:200 overnight at 4°C, followed by conjugation to the bs-0295G-HRP and DAB (C-0010) staining.

— SELECTED CITATIONS —

- **[IF=9.776]** Ruijing Zhao. et al. Inhalation of MSC-EVs is a noninvasive strategy for ameliorating acute lung injury. J Control Release. 2022 May;345:214 FCM ;Human. 35307508
- **[IF=8.7]** Tzu-Hsiang Lin. et al. A bioactive composite scaffold enhances osteochondral repair by using thermosensitive chitosan hydrogel and endothelial lineage cell-derived chondrogenic cell. MATER TODAY BIO. 2024 Oct;28:101174 FCM ;Rabbit. 39211289
- **[IF=8.7]** Xin Chen. et al. Decellularized adipose matrix hydrogel-based in situ delivery of antagomiR-150-5p for rat abdominal aortic aneurysm therapy. materials today bio. 2024 Nov 20:29:101350. IHC ;Rat. 39677522
- **[IF=7.1]** Shuangjie Zhu. et al. Dihydroartemisinin inhibits the development of autoimmune thyroiditis by modulating oxidative stress and immune imbalance. free radical biology and medicine. 2025 Feb 21:231:57-67. IF ;Mouse. 39988064
- **[IF=6.6]** Hsueh-Chun Wang. et al. Restoring Osteochondral Defects through the Differentiation Potential of Cartilage Stem/Progenitor Cells Cultivated on Porous Scaffolds. Cells-Basel. 2021 Dec;10(12):3536 FCM ;Human. 34944042