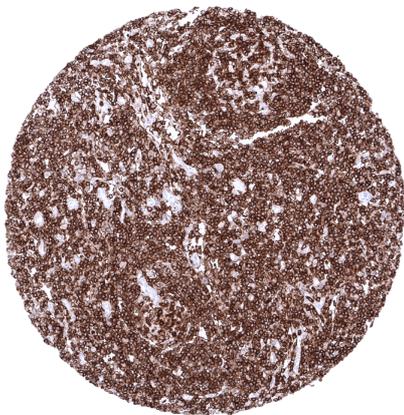


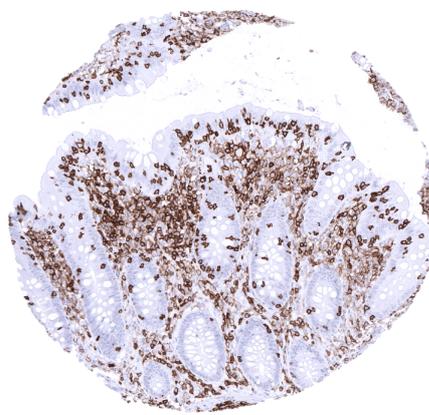
Anti-CD45 Antibody MSVA-045R / Recombinant Rabbit monoclonal

Human SwissProt	P08575
Human Gene Symbol	PTPRC
Synonyms	B220, CD45R, GP180, Leukocyte common antigen (LCA), Loc, Ly-5, Lyl-4, Protein tyrosine phosphatase receptor type C (PTPRC), Receptor-type tyrosine-protein phosphatase C, T200 glycoprotein
Specificity	CD45
Immunogen	Recombinant fragment of human CD45 protein
Isotype	Rabbit / IgG
Species Reactivity	Human

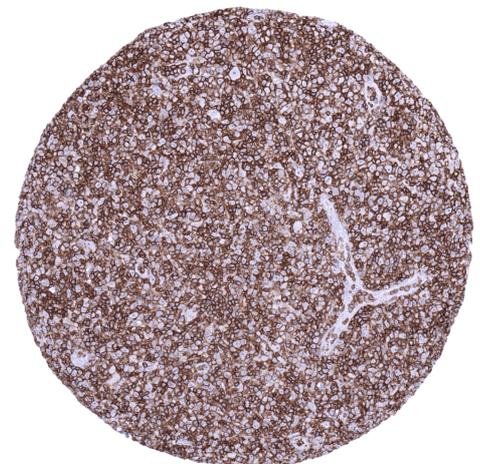
Localization	Cell Surface
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Tonsil: All lymphocytes and histiocytes must show a strong membranous CD45 staining.
Negative Control	Tonsil: Squamous epithelial cells must be completely CD45 negative.



In the lymph node, virtually all hematolymphoid cells are CD45 positive.



In the appendix, CD45 immunostaining is stronger in lymphocytes than in macrophages. Epithelial cells are completely CD45 negative.



A strong CD45 immunostaining is seen in all cells of a diffuse large B-cell lymphoma.

Biology

CD45 is a type I transmembrane protein that is present in various isoforms on all differentiated hematopoietic cells except erythrocytes and plasma cells. The gene is located at 1q31.3-q32.1 and contains 34 exons coding for an unusually large protein with extracellular and cytoplasmic domains. Multiple isoforms exist. All CD45 isoforms are essential regulators of T- and B-cell antigen receptor signaling. They function through either direct interaction with components of the antigen receptor complexes via its extracellular domain or by activating various Src family kinases required for the antigen receptor signaling via its cytoplasmic domain. CD45 is exclusively expressed on membranes of hematolymphoid cells. Almost all hematolymphoid cell types, including granulocytes, precursor cells, mature B- and T-lymphocytes, monocytes/histiocytes, interdigitating reticulum cells, and follicular dendritic cells show variable levels of CD45 immunostaining. CD45 is strongly expressed on lymphocytes while monocytes/histiocytes show a somewhat weaker staining. CD45 expression is lost in maturing erythrocytes, megakaryocytes and plasma cells. A positive CD45 immunostaining occurs in the vast majority of leukemias, malignant lymphomas, mast cell neoplasms as well as of histiocytic and dendritic cell neoplasms. More than 90% of malignant lymphomas express detectable CD45 levels. Among lymphomas, the CD45 positivity rate is lowest in precursor B-cell neoplasms, large cell anaplastic lymphomas, and plasmacytic neoplasms (positive in about 10%). In Hodgkin's lymphoma, the L&H cells are always positive in the LP-type, but Reed-Sternberg are negative or only show a faint cytoplasmic staining cells in classic Hodgkin's lymphoma.

Potential Research Applications

- The prevalence of CD45 expression in hematological and non-hematological neoplasms should be further investigated.
- CD45 is an important component of multicolor immunohistochemistry assays analyzing the role of subsets of hematolymphoid cells.

Protocol Suggestions

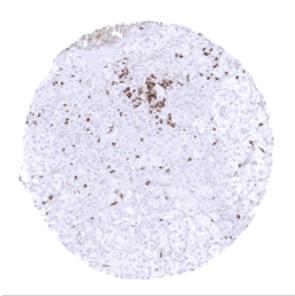
Dilution: 1:150 ; pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

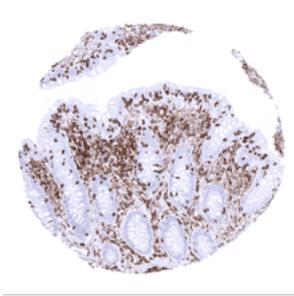
This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

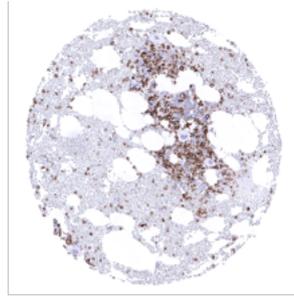
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



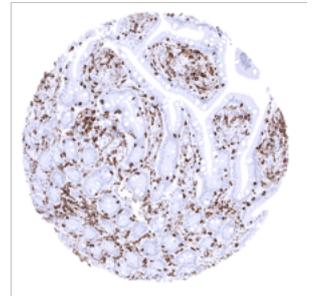
Adrenal gland



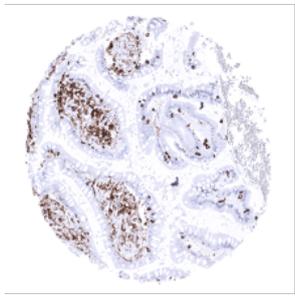
Appendix, mucosa - In the appendix, CD45 immunostaining is stronger in lymphocytes than in macrophages. Epithelial cells are completely CD45 negative



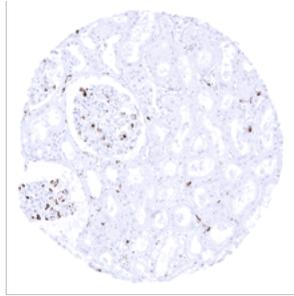
Bone marrow - The majority of cells show CD45 immunostaining in this bone marrow sample. Megacaryocytes remain CD45 negative, however



Duodenum, mucosa



Ileum, mucosa



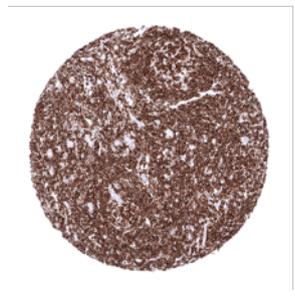
Kidney, cortex



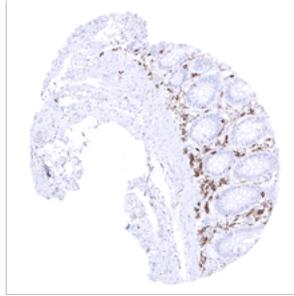
Liver - In the liver, CD45 staining is seen in intravascular lymphocytes, inflammatory cells and in Kupffer cells



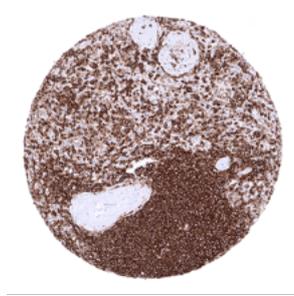
Lung - A strong CD45 immunostaining is seen in intravascular lymphocytes while the staining is somewhat weaker in alveolar macrophages



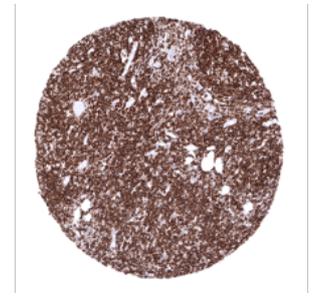
Lymph node



Rectum, mucosa



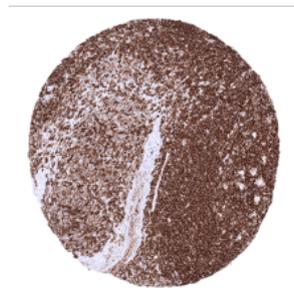
Spleen



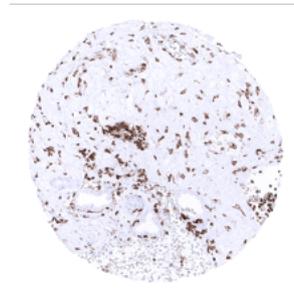
Thymus



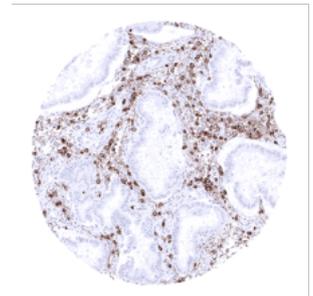
Tonsil, surface epithelium



Tonsil



Uterus, endometrium (pregnancy)



Uterus, endometrium (secretion)