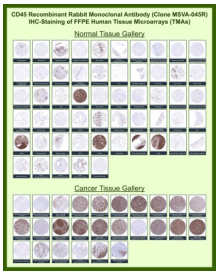
CD45 Antibody for IHC / Leukocyte Common Antigen Immunohistochemistry Antibody [clone MSVA-045R] (V5980)

Catalog No.	Formulation	Size
V5980-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5980-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-045R
UniProt	P08575
Localization	Cell membrane
Applications	Immunohistochemistry (FFPE): 1:100-1:200
Limitations	This CD45 Antibody for IHC / Leukocyte Common Antigen Immunohistochemistry Antibody is available for research use only.



CD45 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Protein tyrosine phosphatase receptor type C PTPRC, also known as Leukocyte common antigen CD45, in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant rabbit monoclonal CD45 antibody clone MSVA-045R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates robust membranous localization in lymphoid-rich tissues including tonsil, lymph node, spleen, and thymus, highlighting abundant leukocyte populations and normal immune architecture, while most non-hematopoietic epithelial and stromal tissues remain largely negative. Within tumor tissue microarrays, strong and diffuse staining is observed across multiple lymphoma subtypes, clearly identifying hematopoietic malignancies, whereas most non-hematologic tumors show minimal to no staining except for infiltrating immune cells within the tumor microenvironment. Evaluation across large TMA panels enables direct comparison of PTPRC expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported PTPRC expression profiles in publicly available datasets including the Human Protein Atlas, supporting its use as a pan-leukocyte marker for immunohistochemistry studies.

Description

Protein Tyrosine Phosphatase Receptor Type C (PTPRC), commonly known as CD45 or leukocyte common antigen, is a transmembrane phosphatase expressed on nearly all nucleated hematopoietic cells, where it regulates antigen receptor signaling and immune cell activation. CD45 Antibody for IHC is specifically optimized for detection of pan-leukocyte populations in formalin-fixed, paraffin-embedded tissues, enabling high-contrast visualization of immune cell distribution, lymphoid architecture, and tissue immune composition in histological sections.

CD45 antibody, also referred to as leukocyte common antigen antibody or PTPRC antibody, is widely used in immunohistochemistry as a definitive pan-leukocyte marker. In IHC staining, CD45 produces strong membranous HRP-DAB brown signal outlining lymphocytes and other hematopoietic cells, allowing precise identification of immune cell populations within complex tissue environments. This staining pattern enables clear distinction between hematopoietic and non-hematopoietic compartments, while epithelial and most stromal cells remain negative, supporting its specificity in tissue-based analysis.

Clone MSVA-045R is a recombinant rabbit monoclonal antibody developed for high-affinity and reproducible detection of CD45 in FFPE samples. This clone produces strong, well-defined membranous staining with low non-specific background under standard antigen retrieval conditions, enabling accurate visualization of leukocyte populations even in densely cellular tissues or tumor-rich regions. In Tissue Microarray (TMA) analysis, CD45 Antibody for IHC demonstrates highly consistent staining across large panels of normal and cancer tissues, enabling side-by-side comparison of immune cell density and spatial distribution across hundreds of tissue cores within a single experimental framework.

In normal tissue microarrays, CD45 expression is prominently observed in lymphoid organs such as tonsil, lymph node, spleen, and thymus, where dense populations of hematopoietic cells exhibit strong membranous staining. Scattered CD45-positive cells are also readily identified in peripheral tissues, reflecting circulating and resident immune cells. This widespread staining pattern enables clear visualization of immune surveillance and tissue-resident leukocyte populations across multiple organ systems in IHC analysis.

In cancer tissue microarrays, CD45 Antibody for IHC robustly highlights tumor-infiltrating leukocytes, revealing variable immune cell density and distribution within tumor microenvironments. Hematologic malignancies, including lymphomas, demonstrate diffuse and strong membranous staining consistent with leukocyte origin, while most non-hematopoietic tumor cells remain negative. This contrast is particularly valuable for distinguishing hematopoietic versus non-hematopoietic tumors and for evaluating immune infiltration patterns in solid tumors using TMA-based immunohistochemistry.

The robust and reproducible performance of clone MSVA-045R in TMA-based immunohistochemistry supports its application in immuno-oncology, tumor microenvironment profiling, and lymphoid tissue analysis. CD45 Antibody for IHC enables reliable detection of pan-leukocyte populations in FFPE tissues and is well suited for high-throughput tissue microarray analysis, comparative pathology, and detailed evaluation of immune infiltration across normal and diseased tissues.

CD45 is encoded by PTPRC and functions as a key regulator of leukocyte signaling and hematopoietic cell biology; additional reagents targeting this protein are available on the CD45 Antibody page.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the CD45 Antibody for IHC / Leukocyte Common Antigen Immunohistochemistry Antibody should be determined by the researcher.

2. This Leukocyte Common Antigen/CD45 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment (around amino acids 1-600) of human PTPRC protein (extracellular domain) was used as the immunogen for the Leukocyte Common Antigen/CD45 antibody.

Storage

Leukocyte Common Antigen/CD45 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

CD45 IHC antibody, Leukocyte common antigen antibody, PTPRC immunohistochemistry antibody, Pan leukocyte marker antibody, CD45 TMA antibody

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