

PRODUCT INFORMATION

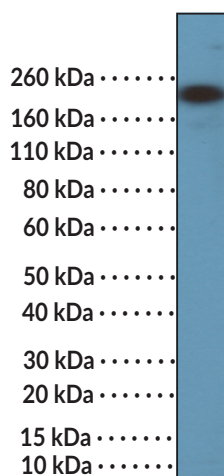
CD45 Rabbit Monoclonal Antibody (Clone RM497)

Item No. 42849

Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	LCA, Leukocyte Common Antigen, Ly-5, PTPRC
Immunogen:	Recombinant human CD45
Cross Reactivity:	(+) CD45
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM497
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting concentration is 1:100-1:200 for IHC and 1:100-1:500 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of Jurkat cell lysates using CD45 Rabbit Monoclonal Antibody (Clone RM497) at a dilution of 1:1,000.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

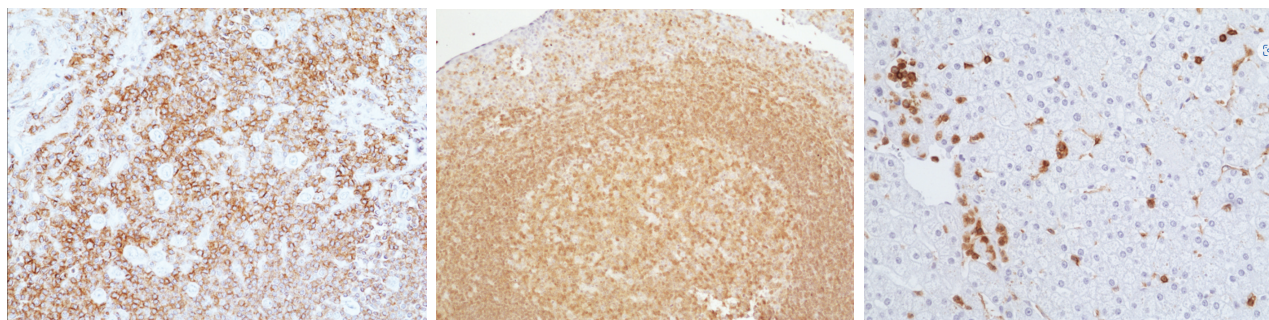
SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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PRODUCT INFORMATION



Immunohistochemical staining of formalin-fixed and paraffin-embedded human lymphoma section using CD45 Rabbit Monoclonal Antibody (Clone RM497) at a 1:100 dilution.

Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue section using CD45 Rabbit Monoclonal Antibody (Clone RM497) at a 1:100 dilution.

Immunohistochemical staining of formalin-fixed and paraffin-embedded human liver tissue section using CD45 Rabbit Monoclonal Antibody (Clone RM497) at a 1:100 dilution.

Description

CD45 is a type I transmembrane glycoprotein that is encoded by the *PTPRC* gene in humans and is abundantly expressed on nucleated hematopoietic cells.¹ It contains an extracellular region that binds to glycoproteins and exists in various isoforms in a cell type-, differentiation state-, and activation state-dependent manner.^{1,2} CD45 also contains two highly conserved cytoplasmic protein tyrosine phosphatase domains that regulate intracellular signaling.¹ CD45 functions as a negative or positive regulator of antigen receptor signaling in T and B cells through dephosphorylation of Src family kinases in a cell type- and differentiation state-dependent manner.² It also dephosphorylates JAK kinases, inhibiting cytokine and chemokine signaling in leukocytes. Mutations in *PTPRC* are associated with severe combined immunodeficiency (SCID) in mice and humans.³⁻⁵ The number of CD45⁺ cells is increased in postmortem brain from patients with Alzheimer's disease.⁶ Increased levels of the CD45 isoform CD45RO have been found on CD19⁺ lamina propria B cells isolated from patients with Crohn's disease.⁷ Fluorescently labeled versions of CD45 have commonly been used in flow cytometry as a pan leukocyte marker and to identify certain subsets of hematopoietic stem cells (HSCs).⁸ Cayman's CD45 Rabbit Monoclonal Antibody (Clone RM497) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

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