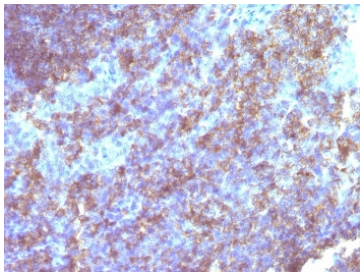
# CD45 Antibody Bra55 / Leukocyte Marker [clone Bra55] (V3963)

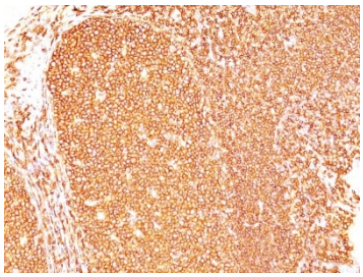
| Catalog No. | Formulation | Size |
|---|---|---|
| V3963-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 100 ug |
| V3963-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide | 20 ug |
| V3963SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

**Bulk quote request**

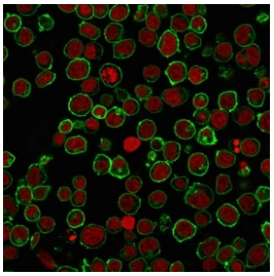
| | |
|---|---|
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Mouse |
| **Clonality** | Monoclonal (mouse origin) |
| **Isotype** | Mouse IgG1, kappa |
| **Clone Name** | Bra55 |
| **Purity** | Protein G affinity chromatography |
| **UniProt** | P08575 |
| **Localization** | Cell surface and cytoplasmic |
| **Applications** | Flow cytometry: 1-2ug/10^6 cells<br>Immunofluorescence: 1-2ug/ml<br>Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT |
| **Limitations** | This CD45 Antibody Bra55 / Leukocyte Marker is available for research use only. |



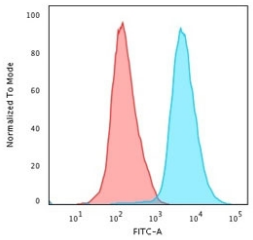
CD45 Antibody Bra55 Human Tonsil IHC. Immunohistochemistry of FFPE human tonsil tissue using CD45 Antibody Bra55 / Leukocyte Marker shows HRP-DAB brown staining throughout the lymphoid cell population, consistent with CD45/PTPRC expression in leukocytes. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling prior to staining. This CD45 Antibody demonstrates detection of the leukocyte marker in human lymphoid tissue.



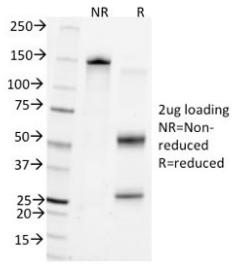
CD45 Antibody Bra55 Human Tonsil Lymphoid Follicle IHC. Immunohistochemistry of FFPE human tonsil tissue using CD45 Antibody Bra55 / Leukocyte Marker shows strong HRP-DAB brown staining across the lymphoid follicle and surrounding leukocyte-rich regions. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling prior to staining. This CD45 Antibody highlights the broad distribution of the leukocyte marker within human tonsil tissue.



CD45 Antibody Bra55 Human Jurkat T Cell Leukemia IF. Immunofluorescence staining of PFA-fixed human Jurkat T cell leukemia cells using CD45 Antibody Bra55 / Leukocyte Marker shows prominent green fluorescence outlining the cell surface, consistent with the membrane localization of CD45/PTPRC. Nuclei were counterstained with Reddot nuclear stain (red). This CD45 Antibody demonstrates detection of the leukocyte marker on human T cells.




CD45 Antibody Bra55 Human Jurkat T Cell Leukemia FACS. Flow cytometry of PFA-fixed human Jurkat T cell leukemia cells using CD45 Antibody Bra55 / Leukocyte Marker. The histogram shows isotype control staining (red) and CD45 Antibody staining (blue). The distinct rightward shift of the antibody-stained population demonstrates cell-surface detection of CD45/PTPRC, supporting the use of clone Bra55 for leukocyte marker analysis in human T cells.




SDS-PAGE analysis of purified, BSA-free CD45 antibody (clone Bra55) as confirmation of integrity and purity.

## Description

CD45 Antibody Bra55 / Leukocyte Marker recognizes CD45, a transmembrane protein tyrosine phosphatase encoded by the PTPRC gene. CD45, also known as leukocyte common antigen, LCA or T200, is broadly expressed on nucleated cells of hematopoietic origin and is one of the most widely used markers for identifying leukocytes. Its extensive distribution among immune cell populations makes CD45 an important target for research involving lymphocytes, hematopoietic tissues and immune cell characterization.

CD45 is a receptor-type protein tyrosine phosphatase composed of a large extracellular region, a single transmembrane domain and intracellular phosphatase domains. Through its phosphatase activity, PTPRC regulates Src family kinases and other components of antigen receptor signaling pathways. CD45 thereby influences signaling through the T cell receptor and B cell receptor and contributes to lymphocyte activation, differentiation, survival and immune responsiveness.

Alternative splicing of PTPRC produces multiple CD45 isoforms that differ in portions of their extracellular domains. These include forms commonly designated CD45RA, CD45RB and CD45RO, which exhibit characteristic expression patterns among different leukocyte populations and stages of lymphocyte differentiation. Changes in CD45 isoform expression are frequently studied in relation to T cell maturation, activation and immune status, while general CD45 detection provides a

broader approach to identifying hematopoietic cells and investigating leukocyte biology.

As a widely established leukocyte marker, CD45 is extensively studied in immunology, hematology, inflammation and cancer biology. Detection of CD45 can help characterize leukocyte populations in blood and lymphoid tissues and distinguish hematopoietic cells from many non-hematopoietic cell types. CD45 is also relevant to leukemia and lymphoma research and to studies of immune cell infiltration within tumors and other tissue environments. Its dual importance as a cellular marker and signaling regulator gives PTPRC broad utility across immune system research.

Clone Bra55 is a mouse monoclonal antibody directed against human CD45/PTPRC and has been used in published research. Its established clone identity supports studies of CD45 expression and the characterization of leukocyte and hematopoietic cell populations. A CD45 Antibody can support research into leukocyte identification, lymphocyte biology, hematopoietic cell characterization and immune signaling.

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.

## Application Notes

Due to variation in protocol and secondary antibody used, the CD45 Antibody Bra55 / Leukocyte Marker may need to be titered for optimal performance.

## Immunogen

REH cells (a non-T, non-B acute lymphoblastic leukaemia cell line) were used as the immunogen for the CD45 antibody.

## Storage

CD45 antibody (with azide) can be stored at 2-8oC. The azide-free format should be aliquoted and stored at -20oC or colder.

## Alternate Names

CD45 antibody, PTPRC antibody, Leukocyte common antigen antibody, LCA antibody, Protein tyrosine phosphatase receptor type C antibody, T200 antibody

## References (2)


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