### CD45 Monoclonal Antibody (30-F11), eBioscience™

**Catalog Number 14-0451-81**

**Details** | **Species Reactivity**
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**Size** | 50 µg
**Host / Isotype** | Rat IgG2b, kappa
**Class** | Monoclonal
**Type** | Antibody
**Clone** | 30-F11
**Conjugate** | Unconjugated
**Form** | Liquid
**Concentration** | 0.5mg/mL
**Purification** | Affinity chromatography
**Storage Buffer** | PBS, pH 7.2
**Contains** | 0.09% sodium azide
**Storage Conditions** | 4° C

| **Tested species reactivity** | Mouse
| **Published Species Reactivity** | Fish, Human, Mouse, Not Applicable
| **Tested Applications** | Dilution *
| **Flow Cytometry (Flow)** | 0.5 µg/test
| **Functional Assay (FN)** | Assay-Dependent
| **Immunohistochemistry (IHC)** | Assay-Dependent
| **Immunoprecipitation (IP)** | Assay-Dependent

| **Published Applications** |
| Flow Cytometry (Flow) | See 164 publications below |
| Immunofluorescence (IF) | See 35 publications below |
| Immunohistochemistry (IHC) | See 20 publications below |
| Immunohistochemistry (Frozen) (IHC (F)) | See 4 publications below |
| Functional Assay (FN) | See 2 publications below |
| Affinity Purification (AP) | See 1 publications below |
| ELISA (ELISA) | See 1 publications below |
| In vitro Assay (IV) | See 1 publications below |

* *Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.*

### Product Specific Information

**Description:** The 30-F11 monoclonal antibody reacts with all isoforms of mouse CD45, also known as Leukocyte Common Antigen (LCA). CD45 is expressed by all hematopoietic cells excluding mature erythrocytes and platelets. The cytoplasmic portion of CD45 has tyrosine phosphatase enzymatic activity and plays an important role in activation of lymphocytes.

**Applications Reported:** The 30-F11 antibody has been reported for use in flow cytometric analysis, immunoprecipitation, and immunohistochemical staining. 30-F11 has also been reported in complement-dependent cytotoxicity. (Please use Functional Grade purified 30-F11 in functional assays.).

**Applications Tested:** The 30-F11 antibody has been tested by flow cytometric analysis of mouse bone marrow cells and splenocytes. This can be used at less than or equal to 0.5 µg/microg per test. A test is defined as the amount (µg/microg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

**Purity:** Greater than 90%, as determined by SDS-PAGE.

**Aggregation:** Less than 10%, as determined by HPLC.

**Filtration:** 0.2 µm post-manufacturing filtered.

### Background/Target Information

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.


Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts (“Documentation”). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.
Staining of C57Bl/6 splenocytes with 0.25 µg of Rat IgG2b Isotype Control Purified (Product # 14-4031-82) (open histogram) or 0.25 µg of Anti-Mouse CD45 Purified (filled histogram) followed by Anti-Rat IgG FITC (Product # 11-4811-85). Cells in the lymphocyte gate were used for analysis.