

## Monoclonal Antibody to CD45 / LCA - FITC

<b>Alternate names:</b>	L-CA, Leukocyte common antigen, PTPRC, Receptor-type tyrosine-protein phosphatase C, T200
<b>Catalog No.:</b>	CL111F
<b>Quantity:</b>	0.1 mg
<b>Concentration:</b>	0.1 mg/ml
<b>Background:</b>	CD45 is a family of single chain transmembraneous glycoproteins consisting of at least four isoforms (220, 205, 190, 180 kDa) which share a common large intracellular domain. Their extracellular domains are heavily glycosylated. The different isoforms are produced by alternative messenger RNA splicing of three exons of a single gene on chromosome 1. CD45 is expressed on cells of the human hematopoietic lineage (including hematopoietic stem cells) with the exception of mature red cells. It is not detected on differentiated cells of other tissues. It is likely that CD45 plays an important role in signal transduction, inhibition or upregulation of various immunological functions. Antibodies recognising a common epitope on all of the isoforms are termed CD45 whilst those recognising only individual isoforms are termed CD45RA or CD45RO etc.
<b>Uniprot ID:</b>	<a href="#">P04157</a>
<b>NCBI:</b>	<a href="#">NP_001103357.1</a>
<b>GeneID:</b>	<a href="#">24699</a>
<b>Host / Isotype:</b>	Mouse / IgG2a
<b>Clone:</b>	OX-30
<b>Immunogen:</b>	Lymph Node glycoproteins and cells. Donor: BALB/c spleen Fusion Partner: NSO/U
<b>Format:</b>	<b>State:</b> Liquid Ig fraction <b>Purification:</b> Protein G Chromatography <b>Buffer System:</b> PBS, 0.02% NaN <sub>3</sub> and EIA grade BSA as a stabilizing protein to bring total protein concentration to 4-5 mg/ml <b>Label:</b> FITC
<b>Applications:</b>	Flow cytometry (see protocol). Immunohistochemistry on frozen sections. (Reported to be unsuitable for use with paraffin sections.) Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
<b>Specificity:</b>	This monoclonal antibody recognizes a monomorphic determinant of the rat leukocyte common antigen.(1) The antigen recognized is a heavily glycosylated membrane glycoprotein of molecular weight 170,000 Da on thymocytes but molecular weight

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170,000-220,000 Da on other leukocytes. The leukocyte common antigen (L-CA) is a major glycoprotein of haematopoietic cells but is not found on other tissues or erythroid cells. It is present on greater than 95% of thymocytes, bone marrow cells and thoracic duct lymphocytes. This molecule carries much of the carbohydrate of thymocytes and shows interesting heterogeneity amongst T lymphocytes and B lymphocytes.

**Species Reactivity:** **Tested:** Rat

**Storage:** Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.  
Shelf life: one year from despatch.

**Protocols:** **FLOW CYTOMETRY ANALYSIS:**

**Method:**

1. Prepare a cell suspension in media A. For cell preparations, deplete the red blood cell population with Lympholyte®-Rat cell separation medium
2. Wash 2 times.
3. Resuspend the cells to a concentration of 2x10<sup>7</sup> cells/ml in media A. Add 50 µl of this suspension to each tube (each tube will then contain 1 x 10<sup>6</sup> cells, representing 1 test).
4. To each tube, add 0.1-0.2 µg of this Ab per 10<sup>6</sup> cells.
5. Vortex the tubes to ensure thorough mixing of antibody and cells.
6. Incubate the tubes for 30 minutes at 4°C. (It is recommended that the tubes are protected from light, since most fluorochromes are light sensitive.)
7. Wash 2 times at 4°C.
8. Resuspend the cell pellet in 50 µl ice cold media B.
9. Transfer to suitable tubes for flow cytometric analysis containing 15 µl of propidium iodide at 0.5 mg/ml in PBS. This stains dead cells by intercalating in DNA.

**Media:**

- A. Phosphate buffered saline (pH 7.2) + 5% normal serum of host species + sodium azide (100 µl of 2M sodium azide in 100 mls).
- B. Phosphate buffered saline (pH 7.2) + 0.5% Bovine serum albumin + sodium azide (100 µl of 2M sodium azide in 100 mls).

**Results - Tissue Distribution:**

Rat Strain: Wistar

Cell Concentration: 1x10<sup>6</sup> cells per test

Antibody Concentration Used: 0.1 µg/10<sup>6</sup> cells

Isotypic Control: FITC Mouse IgG2a

**Cell Source Percentage of cells stained above control:**

Thymus: 99.9%

Spleen: 96.0%

Lymph Node: 99.5%

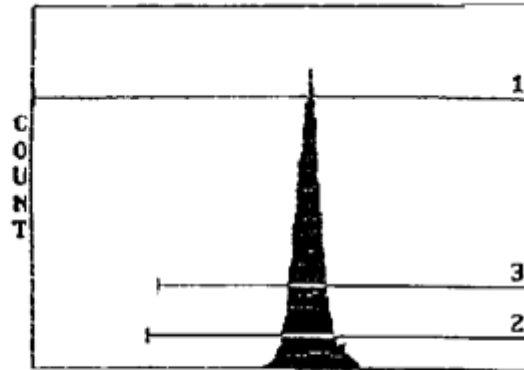
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Pictures:



LFL1

Cell Source: Thymus

Percentage of cells stained above control: 99.9%

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