

## Alexa Fluor® 700 anti-human CD45 Antibody

<b>Catalog# / Size</b>	368513 / 25 tests 368514 / 100 tests
<b>Clone</b>	2D1
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Leukocyte Common Antigen (LCA), T200
<b>Isotype</b>	Mouse IgG1, κ
<b>Description</b>	CD45 is a 180 - 240 kD single chain type I membrane glycoprotein also known as leukocyte common antigen (LCA) and T200. It is a tyrosine phosphatase expressed on the plasma membrane of all hematopoietic cells, except erythrocytes or platelets. CD45 is a signaling molecule that regulates a variety of cellular processes including cell growth, differentiation, cell cycle, and oncogenic transformation. CD45 plays a critical role in T and B cell antigen receptor-mediated activation by dephosphorylating substrates including p56Lck, p59Fyn, and other Src family kinases. CD45 non-covalently associates with lymphocyte phosphatase-associated phosphoprotein (LPAP) on T and B lymphocytes. CD45 has been reported to bind galectin-1 and to be associated with several other cell surface antigens including CD1, CD2, CD3, and CD4.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	Human PBMC
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 700 under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.  * Alexa Fluor® 700 has a maximum emission of 719 nm when it is excited at 633 nm / 635 nm. Prior to using Alexa Fluor® 700 conjugate for flow cytometric analysis, please verify your flow cytometer's capability of exciting and detecting the fluorochrome.  Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.  <a href="#">View full statement regarding label licenses</a>
<b>Excitation Laser</b>	Red Laser (633 nm)
<b>Application Notes</b>	It was found that the HI30 clone and the 2D1 clone can cross block each other's binding.
<b>Application References</b>	1. Bradstock KF, <i>et al.</i> 1980. <i>J. Natl. Cancer Inst.</i> 65:33. 2. Csiba A, <i>et al.</i> 1984. <i>Br. J. Cancer</i> 50:699. 3. Tchilian EZ, <i>et al.</i> 2001. <i>J. Immunol.</i> 166:1308. 4. Lee MS, <i>et al.</i> 2004. <i>Int. Immunol.</i> 16:1109.
<b>(PubMed link indicates BioLegend citation)</b>	

## Product Citations

1. Wang J, *et al.* 2020. *Cell*. 183:1264. [PubMed](#)
2. Roerden M, *et al.* 2021. *Cancers*. 13(11):. [PubMed](#)
3. Wang F, *et al.* 2021. *Cell*. 184(2):422-440.e17. [PubMed](#)
4. Bonifacius A, *et al.* 2021. *Immunity*. 54(2):340-354.e6. [PubMed](#)
5. BÖiers C, *et al.* 2018. *Dev Cell*. 44:362. [PubMed](#)
6. Sagebiel AF, *et al.* 2019. *Nat Commun*. 10:975. [PubMed](#)
7. Perry JSA, *et al.* 2018. *Immunity*. 48:923. [PubMed](#)
8. Solimani F, *et al.* 2019. *Front Immunol*. 1.672222222. [PubMed](#)
9. Cella M, *et al.* 2019. *Nat Immunol*. 1.513888889. [PubMed](#)

## RRID

AB\_2566373 (BioLegend Cat. No. 368513)  
AB\_2566374 (BioLegend Cat. No. 368514)

## Antigen Details

<b>Structure</b>	Type I transmembrane protein, 180 - 240 kD (multiple isoforms)
<b>Distribution</b>	Hematopoietic cells, except circulating erythrocytes or platelets.
<b>Function</b>	Tyrosine phosphatases, signaling, co-stimulation (co-inhibition), TCR and BCR mediated activation.
<b>Ligand/Receptor</b>	Galectin-1, CD2, CD3, and CD4.
<b>Cell Type</b>	B cells, Dendritic cells, Neutrophils
<b>Biology Area</b>	Cell Biology, Immunology, Inhibitory Molecules, Neuroscience, Neuroscience Cell Markers
<b>Molecular Family</b>	CD Molecules, Protein Kinases/Phosphatase, TCRs
<b>Antigen References</b>	1. Thomas M. 1989. <i>Annu. Rev. Immunol.</i> 7:339. 2. Trowbridge I, <i>et al.</i> 1994. <i>Annu. Rev. Immunol.</i> 12:85.
<b>Gene ID</b>	<a href="#">5788</a>

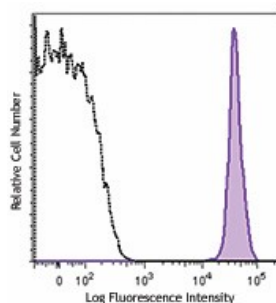
## Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

## Other Formats

Purified anti-human CD45, PerCP anti-human CD45, FITC anti-human CD45, PE anti-human CD45, APC anti-human CD45, Alexa Fluor® 700 anti-human CD45, APC/Cyanine7 anti-human CD45, PerCP/Cyanine5.5 anti-human CD45, APC/Fire™ 750 anti-human CD45, Alexa Fluor® 594 anti-human CD45, Brilliant Violet 510™ anti-human CD45, Brilliant Violet 421™ anti-human CD45, PE/Dazzle™ 594 anti-human CD45, Brilliant Violet 605™ anti-human CD45, PE/Cyanine7 anti-human CD45, Pacific Blue™ anti-human CD45, Alexa Fluor® 647 anti-human CD45, Biotin anti-human CD45, Alexa Fluor® 488 anti-human CD45, TotalSeq™-A0048 anti-human CD45, Brilliant Violet 750™ anti-human CD45, TotalSeq™-C0048 anti-human CD45, TotalSeq™-B0048 anti-human CD45, Spark Blue™ 550 anti-human CD45, Spark NIR™ 685 anti-human CD45, TotalSeq™-D0048 anti-human CD45, PE/Cyanine5 anti-human CD45, Spark Blue™ 574 anti-human CD45 Antibody

## Product Data



Human peripheral blood lymphocytes were stained with CD45 (clone 2D1) Alexa Fluor® 700 (filled histogram) or mouse IgG1, κ Alexa Fluor® 700 isotype control (open histogram).

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