

Alexa Fluor® 647 anti-human CD45RA Antibody

Catalog# / Size	304153 / 25 tests 304154 / 100 tests
Clone	HI100
Regulatory Status	RUO
Workshop	IV N906
Other Names	GP180, L-CA, LCA, LY5, T200, PTPRC
Isotype	Mouse IgG2b, κ
Description	CD45RA is a 205-220 kD single chain type I glycoprotein. It is an exon 4 splice variant of the tyrosine phosphatase CD45. The CD45RA isoform is expressed on resting/naïve T cells, medullary thymocytes, B cells and monocytes. CD45RA enhances both T cell receptor and B cell receptor signaling. CD45 non-covalently associates with lymphocyte phosphatase-associated phosphoprotein (LPAP) on T and B lymphocytes. CD45 has been reported to be associated with several other cell surface antigens including CD1, CD2, CD3, and CD4. CD45 has also been reported to bind galectin-1. CD45 isoform expression can change in response to cytokines.

Product Details

Verified Reactivity	Human
Reported Reactivity	Chimpanzee
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested IHC-P - Verified
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . 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. For immunohistochemistry, a concentration range of 5.0 - 10.0 µg/ml is suggested. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Application Notes	Additional reported applications (for relevant formats of this clone) include: inhibition of CD45 functions ² , immunohistochemical staining of frozen tissue sections ³ and formalin-fixed paraffin-embedded tissue sections ⁴ , and immunocytochemistry ^{15,16} .
Application References	1. Knapp W, <i>et al.</i> 1989. Leucocyte Typing IV. Oxford University Press. New York.

(PubMed link indicates BioLegend citation)

2. Yamada T, *et al.* 2002. *J. Biol. Chem.* 277:28830. (WB, Block)
3. Weninger W, *et al.* 2003 *J. Immunol.* 170:4638. (IHC-F)
4. Imaniguli MM, *et al.* 2009. *Blood.* 113:3620 (IHC-P)
5. Roque S, *et al.* 2007. *J. Immunol.* 178:8028. (FC) [PubMed](#)
6. Smeltz RB. 2007. *J. Immunol.* 178:4786. (FC) [PubMed](#)
7. Palendira U, *et al.* 2008. *Blood* (FC) [PubMed](#)
8. Kuttruff S, *et al.* 2009. *Blood* 113:358. (FC) [PubMed](#)
9. Thakral D, *et al.* 2008. *J. Immunol.* 180:7431. (FC) [PubMed](#)
10. Alanio C, *et al.* 2010. *Blood* 115:3718. (FC) [PubMed](#)
11. Iannello A, *et al.* 2010. *J. Immunol.* 184:114. (FC) [PubMed](#)
12. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
13. Guereau-de-Arellan M, *et al.* 2011. *Brain.* 134:3578. [PubMed](#)
14. Canque B, *et al.* 2000. *Blood* 96:3748. (ICC)
15. Imaniguli MM, *et al.* 2009. *Blood* 113:3620. (ICC)
16. Stoeckius M, *et al.* 2017. *Nat. Methods.* 14:865. (PG)
17. Peterson VM, *et al.* 2017. *Nat. Biotechnol.* 35:936. (PG)

Product Citations

1. Sung BY, *et al.* 2022. *J Clin Invest.* 132:. [PubMed](#)
2. Klein H, *et al.* 2016. *J Neuropathol Exp Neurol.* 75: 1031 - 1047. [PubMed](#)
3. Walsh AJ, *et al.* 2020. *Nat Biomed Eng.* . [PubMed](#)
4. Bhowmick D, *et al.* 2021. *Sci Rep.* 11:20553. [PubMed](#)
5. Wang X, *et al.* 2022. *J Exp Clin Cancer Res.* 41:210. [PubMed](#)

RRID

AB_2616994 (BioLegend Cat. No. 304153)
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Antigen Details

Structure	Tyrosine phosphatases, type I transmembrane (exon 4 splicing of CD45 gene), 205-220 kD
Distribution	B cells, naïve T cells, monocytes
Function	Enhances TCR and BCR signaling
Ligand/Receptor	Galectin-1, CD2, CD3, CD4
Cell Type	B cells, Monocytes, T cells, Tregs
Biology Area	Cell Biology, Immunology, Inhibitory Molecules, Neuroscience, Neuroscience Cell Markers
Molecular Family	CD Molecules
Antigen References	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.
Gene ID	5788

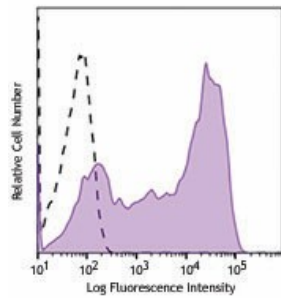
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

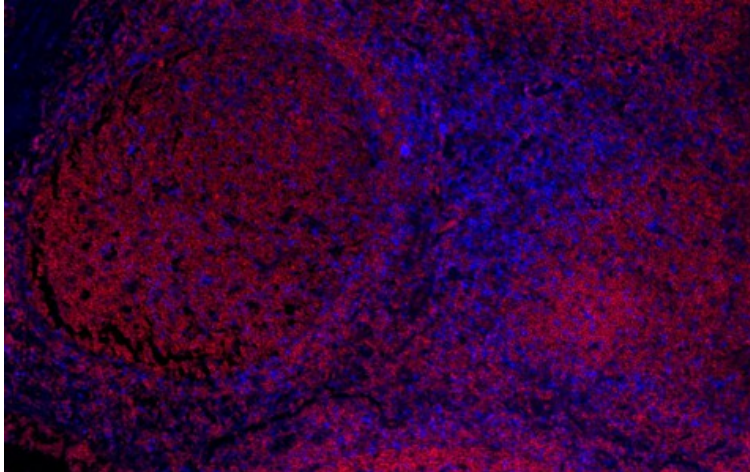
Other Formats

APC anti-human CD45RA, Biotin anti-human CD45RA, FITC anti-human CD45RA, PE anti-human CD45RA, PE/Cyanine5 anti-human CD45RA, Purified anti-human CD45RA, Alexa Fluor® 488 anti-human CD45RA, Alexa Fluor® 647 anti-human CD45RA, Pacific Blue™ anti-human CD45RA, Alexa Fluor® 700 anti-human CD45RA, PerCP/Cyanine5.5 anti-human CD45RA, PE/Cyanine7 anti-human CD45RA, APC/Cyanine7 anti-human CD45RA, Brilliant Violet 421™ anti-human CD45RA, Brilliant Violet 570™ anti-human CD45RA, Brilliant Violet 605™ anti-human CD45RA, Brilliant Violet 650™ anti-human CD45RA, Brilliant Violet 711™ anti-human CD45RA, Brilliant Violet 785™ anti-human CD45RA, Brilliant Violet 510™ anti-human CD45RA, Purified anti-human CD45RA (Maxpar® Ready), PE/Dazzle™ 594 anti-human CD45RA, APC/Fire™ 750 anti-human CD45RA, PerCP anti-human CD45RA, TotalSeq™-A0063 anti-human CD45RA, Alexa Fluor® 594 anti-human CD45RA, TotalSeq™-B0063 anti-human CD45RA, TotalSeq™-C0063 anti-human CD45RA, Brilliant Violet 750™ anti-human CD45RA, Spark NIR™ 685 anti-human CD45RA, PE/Fire™ 640 anti-human CD45RA, PE/Fire™ 700 anti-human CD45RA Antibody, Spark YG™ 581 anti-human CD45RA, TotalSeq™-D0063 anti-human CD45RA, Spark Violet™ 423 anti-human CD45RA, GMP FITC anti-human CD45RA, Spark UV™ 387 anti-human CD45RA

Product Data



Human peripheral blood lymphocytes were stained with CD45RA (clone HI100) Alexa Fluor® 647 (filled histogram) or mouse IgG2b, κ Alexa Fluor® 647 isotype control (open histogram).



Human paraffin-embedded tonsil tissue slices were prepared with a standard protocol of deparaffinization and rehydration. Antigen retrieval was done with Citrate Buffered 1X (10mM, pH 6.0) at 95°C for 40 minutes. Tissue was washed with PBS/0.05% Tween 20 twice for five minutes and blocked with 5% FBS and 0.2% gelatin for 30 minutes. Then, the tissue was stained with 10 μ g/mL of Alexa Fluor® 647 anti-human CD45RA (Clone HI100) antibody (red) and Brilliant Violet 421™ anti-human CD45RO (Clone UCHL1) antibody (blue) at 4°C overnight. The image was scanned with a 10X objective and stitched with MetaMorph® software.

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