

PE anti-human CD45RA Antibody

Catalog# / Size	304107 / 25 tests 304108 / 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 PE 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
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.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 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	<ol style="list-style-type: none"> Knapp W, <i>et al.</i> 1989. Leucocyte Typing IV. Oxford University Press. New York. Yamada T, <i>et al.</i> 2002. <i>J. Biol. Chem.</i> 277:28830. (WB, Block) Weninger W, <i>et al.</i> 2003 <i>J. Immunol.</i> 170:4638. (IHC-F) Imanguli MM, <i>et al.</i> 2009. <i>Blood.</i> 113:3620 (IHC-P) Roque S, <i>et al.</i> 2007. <i>J. Immunol.</i> 178:8028. (FC) PubMed Smeltz RB. 2007. <i>J. Immunol.</i> 178:4786. (FC) PubMed Palendira U, <i>et al.</i> 2008. <i>Blood</i> (FC) PubMed Kuttruff S, <i>et al.</i> 2009. <i>Blood</i> 113:358. (FC) PubMed Thakral D, <i>et al.</i> 2008. <i>J. Immunol.</i> 180:7431. (FC) PubMed
Application References (PubMed link indicates BioLegend citation)	

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* 13:3620. (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. Liu B, *et al.* 2015. *J Virol.* 89: 11834 - 11844. [PubMed](#)
2. Chabi S, *et al.* 2020. *Cell Reports.* 29(8):2307-2320.e6.. [PubMed](#)
3. Symeonidou V, *et al.* 2021. *Cell Rep.* 37:109900. [PubMed](#)
4. Jarosch S, *et al.* 2022. *STAR Protoc.* 3:101374. [PubMed](#)
5. Lugo-Reyes SO, *et al.* 2021. *J Clin Immunol.* 41:1291. [PubMed](#)
6. Nagle VL, *et al.* 2022. *Mol Cancer Ther.* 21:658. [PubMed](#)
7. de Boer B *et al.* 2018. *Cancer cell.* 34(4):674-689 . [PubMed](#)
8. Queckborner S, *et al.* 2020. *Stem Cell Res Ther.* 11:15. [PubMed](#)
9. Kraig E, *et al.* 2018. *Exp Gerontol.* 105:53. [PubMed](#)
10. Meng Y, *et al.* 2017. *Cell Death Dis.* . 10.1038/cddis.2017.505. [PubMed](#)
11. Dean JW, *et al.* 2020. *J Autoimmun.* 108:102417. [PubMed](#)
12. Kerstein A, *et al.* 2016. *J Autoimmun.* S0896-8411(16)30186-X. [PubMed](#)
13. Zhang M, *et al.* 2020. *J Cell Mol Med.* . [PubMed](#)
14. Torres-Ruiz J, *et al.* 2021. *Front Immunol.* 12:689966. [PubMed](#)
15. Gatla H, *et al.* 2022. *Front Med Technol.* 4:850565. [PubMed](#)
16. Jarosch S, *et al.* 2021. *Cell Rep Methods.* 1:100104. [PubMed](#)
17. Fraccarollo D, *et al.* 2021. *eLife.* 0.4166666666666667. [PubMed](#)
18. Houtsma R, *et al.* 2021. *STAR Protoc.* 2:100864. [PubMed](#)
19. Barman S, *et al.* 2016. *Int Immunol.* 28: 533 - 545. [PubMed](#)
20. Cillo AR, *et al.* 2021. *Cell Rep Med.* 2:100476. [PubMed](#)
21. Linder A, *et al.* 2020. *EMBO J.* 39:e105071. [PubMed](#)
22. Hale M, *et al.* 2017. *Mol Ther Methods Clin Dev.* 0.3. [PubMed](#)
23. Alhaj Hussien K, *et al.* 2020. *Front Immunol.* 11:579776. [PubMed](#)
24. Yost KE, *et al.* 2019. *Nat Med.* 25:1251. [PubMed](#)
25. Hwang HJ, *et al.* 2021. *Immun Inflamm Dis.* 9:274. [PubMed](#)
26. Kim ML, *et al.* 2021. *iScience.* 24:103509. [PubMed](#)

RRID

AB_314411 (BioLegend Cat. No. 304107)
 AB_314412 (BioLegend Cat. No. 304108)

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

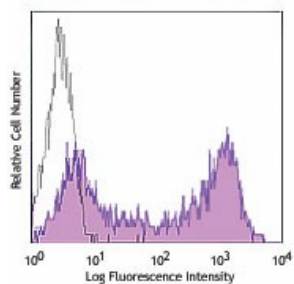
[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

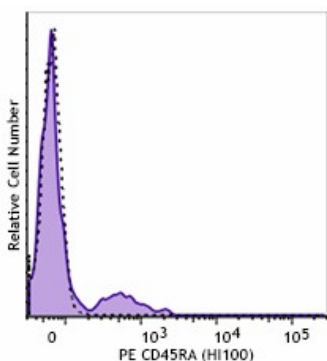
APC anti-human CD45RA, Biotin anti-human CD45RA, FITC anti-human CD45RA, PE anti-human CD45RA, PE/Cyanine5 anti-

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) PE (filled histogram) or mouse IgG2b, κ PE isotype control (open histogram).



Pre-lysed human blood leukocytes were stained with CD45RA (clone HI100) PE (filled histogram) or mouse IgG2b, κ PE isotype control (open histogram).

Data was acquired on the Moxi Flow, exported, and processed using FlowJo software.

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