

Alexa Fluor[®] 700 anti-human CD45RA Antibody

Catalog# / Size	304119 / 25 µg 304120 / 100 µg
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.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor [®] 700 under optimal conditions.
Concentration	0.5 mg/ml
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	<p>Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. The suggested use of this reagent is ≤1.0 µg per million cells in 100 µl volume. It is highly recommended that the reagent be titrated for optimal performance for each application.</p> <p>* 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.</p> <p>Alexa Fluor[®] and Pacific Blue™ are trademarks of Life Technologies Corporation.</p> <p>View full statement regarding label licenses</p>
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	<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)

4. Imanguli 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. Imanguli 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. Fu J *et al.* 2019. *Cell stem cell.* 24(2):227-239 . [PubMed](#)
2. Payne R, *et al.* 2010. *J Virol.* 84:10453. [PubMed](#)
3. Karim F, *et al.* 2021. *Elife.* 10.: [PubMed](#)
4. Afzali B, *et al.* 2013. *Clin J Am Soc Nephrol.* 8:1396. [PubMed](#)
5. Pachnio A, *et al.* 2016. *PLoS Pathog.* 12: 1005832. [PubMed](#)
6. Eberhardt K, *et al.* 2015. *Clin Infect Dis.* 61: 1615 - 1623. [PubMed](#)
7. Eriksson E, *et al.* 2012. *PLoS One.* 7:e51696. [PubMed](#)
8. Carney E, *et al.* 2012. *J Immunol.* 189:261. [PubMed](#)
9. Alanio C, *et al.* 2010. *Blood.* 115:3718. [PubMed](#)
10. Evans RDR, *et al.* 2020. *Nat Commun.* 3.491666667. [PubMed](#)
11. Siddiqui I *et al.* 2019. *Immunity.* 50(1):195-211 . [PubMed](#)
12. Muenchhoff M, *et al.* 2016. *Sci Transl Med.* 8: 358ra125. [PubMed](#)
13. Alexander T, *et al.* 2013. *Ann Rheum Dis.* 72:1549. [PubMed](#)
14. Suwandi JS, *et al.* 2020. *J Autoimmun.* 107:102361. [PubMed](#)
15. Pais Ferreira D, *et al.* 2020. *Immunity.* 53(5):985-1000.e11. [PubMed](#)
16. Leclercq G, *et al.* 2021. *J Immunother Cancer.* 9: . [PubMed](#)
17. Powell R, *et al.* 2017. *J Immunol.* 10.4049/jimmunol.1700114. [PubMed](#)
18. Baskar R, *et al.* 2022. *Cell Rep Methods.* 2.: [PubMed](#)
19. Poon MML, *et al.* 2021. *Cell Rep.* 37:110071. [PubMed](#)
20. Good Z, *et al.* 2019. *Nat Biotechnol.* 37:259. [PubMed](#)
21. Meckiff BJ, *et al.* 2020. *Cell.* 183(5):1340-1353.e16. [PubMed](#)
22. Leclercq G, *et al.* 2022. *J Immunother Cancer.* 10.: [PubMed](#)
23. Salvany-Celades M *et al.* 2019. *Cell Rep.* 27(9):2537-2547 . [PubMed](#)
24. Palendira U, *et al.* 2008. *Blood.* 112:3293. [PubMed](#)
25. Duhon R, *et al.* 2021. *Nat Commun.* 12:1047. [PubMed](#)
26. Kim Y, *et al.* 2021. *Oncol Lett.* 1.022222222. [PubMed](#)
27. Goc J, *et al.* 2021. *Cell.* .: [PubMed](#)
28. Long H, *et al.* 2013. *J Exp Med.* 210:933. [PubMed](#)

RRID

AB_493762 (BioLegend Cat. No. 304119)
 AB_493763 (BioLegend Cat. No. 304120)

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

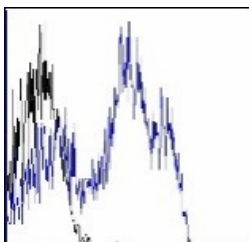
Related Protocols

[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 stained with HI100 Alexa Fluor® 700

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587