

Purified anti-human CD45RA (Maxpar[®] Ready) Antibody

Catalog# / Size	304143 / 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 and EDTA.
Preparation	The antibody was purified by affinity chromatography.
Concentration	1.0 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	FC - Quality tested CyTOF[®] - Verified
Recommended Usage	This product is suitable for use with the Maxpar[®] Metal Labeling Kits . For metal labeling using Maxpar [®] Ready antibodies, proceed directly to the step to Partially Reduce the Antibody by adding 100 µl of Maxpar [®] Ready antibody to 100 µl of 4 mM TCEP-R in a 50 kDa filter and continue with the protocol. Always refer to the latest version of Maxpar [®] User Guide when conjugating Maxpar [®] Ready antibodies.
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} .
Additional Product Notes	Maxpar [®] is a registered trademark of Standard BioTools Inc.
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 Alanio C, <i>et al.</i> 2010. <i>Blood</i> 115:3718. (FC) PubMed Iannello A, <i>et al.</i> 2010. <i>J. Immunol.</i> 184:114. (FC) PubMed
(PubMed link indicates BioLegend citation)	

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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. Jordan S, *et al.* 2020. *Cell*. 178(5):1102-1114.e17.. [PubMed](#)
3. Stras SF, *et al.* 2020. *Developmental Cell*. 51(3):357-373.e5.. [PubMed](#)
4. Audo R, *et al.* 2017. *PLoS One*. 10.1371/journal.pone.0169755. [PubMed](#)
5. Loo Yau H, *et al.* 2021. *Molecular Cell*. 81(7):1469-1483.e8. [PubMed](#)
6. Schwabenland M, *et al.* 2021. *Immunity* . [PubMed](#)

RRID

AB_2562822 (BioLegend Cat. No. 304143)

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	<ol style="list-style-type: none"> 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

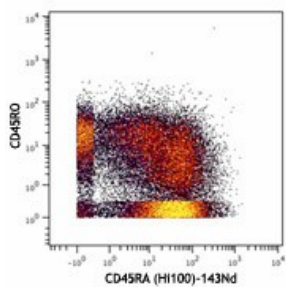
Related Protocols

[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 PBMCs stained with ¹⁴⁹Sm-anti-CD45RO (UCHL1) and ¹⁴³Nd-anti-CD45RA (HI100). Lymphocytes are displayed in the analysis. Data provided by DVS Sciences.

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