

## Brilliant Violet 750™ anti-mouse CD45 Antibody

<b>Catalog# / Size</b>	103157 / 50 µg
<b>Clone</b>	30-F11
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	T200, Ly-5, LCA
<b>Isotype</b>	Rat IgG2b, κ
<b>Description</b>	CD45 is a 180-240 kD glycoprotein also known as the leukocyte common antigen (LCA), T200, or Ly-5. It is a member of the protein tyrosine phosphatase (PTP) family, expressed on all hematopoietic cells except mature erythrocytes and platelets. There are different isoforms of CD45 that arise from variable splicing of exons 4, 5, and 6, which encode A, B, and C determinants, respectively. CD45 plays a key role in TCR and BCR signal transduction. These isoforms are very specific to the activation and maturation state of the cell as well as cell type. The primary ligands for CD45 are galectin-1, CD2, CD3, CD4, TCR, CD22, and Thy-1.

### Product Details

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<b>Verified Reactivity</b>	Mouse
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	Mouse thymus or spleen
<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 Brilliant Violet 750™ under optimal conditions.
<b>Concentration</b>	0.2 mg/ml
<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>	<p>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 ≤ 0.25 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.</p> <p>Brilliant Violet 750™ excites at 405 nm and emits at 750 nm. The bandpass filter 780/60 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel. Refer to your instrument manual or manufacturer for support. Brilliant Violet 750™ is a trademark of Sirigen Group Ltd.</p> <p><a href="#">Learn more about Brilliant Violet™.</a></p> <p>This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.</p>
<b>Excitation Laser</b>	Violet Laser (405 nm)

## Application Notes

Clone 30-F11 reacts with all isoforms and both CD45.1 and CD45.2 alloantigens of CD45.

Additional reported applications (for relevant formats) include: immunoprecipitation<sup>3</sup>, complement-dependent cytotoxicity<sup>1,5</sup>, immunohistochemistry (acetone-fixed frozen sections, zinc-fixed paraffin-embedded sections and formalin-fixed paraffin-embedded sections)<sup>4,6</sup>, Western blotting<sup>7</sup>, and spatial biology (IBEX)<sup>10,11</sup>. The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/μg, Azide-Free, 0.2 μm filtered) is recommended for functional assays (Cat. No. 103163 and 103164).

## Application References

(PubMed link indicates BioLegend citation)

1. Podd BS, *et al.* 2006. *J. Immunol.* 176:6532. (FC, CMCD) [PubMed](#)
2. Haynes NM, *et al.* 2007. *J. Immunol.* 179:5099. (FC)
3. Ledbetter JA, *et al.* 1979. *Immunol. Rev.* 47:63. (IP)
4. Simon DI, *et al.* 2000. *J. Clin. Invest.* 105:293. (IHC)
5. Seaman WE. 1983. *J. Immunol.* 130:1713. (CMCD)
6. Cornet A, *et al.* 2001. *P. Natl. Acad. Sci. USA* 98:13306. (IHC)
7. Tsuboi S and Fukuda M. 1998. *J. Biol. Chem.* 273:30680. (WB) [PubMed](#)
8. Liu F, *et al.* 2012. *Blood.* 119:3295. [PubMed](#)
9. Pelletier AN, *et al.* 2012. *J. Immunol.* 188:5561. [PubMed](#)
10. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
11. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

## Product Citations

1. Jeon Y, *et al.* 2022. *Cancers (Basel).* 14:. [PubMed](#)
2. Kang J, *et al.* 2023. *JCI Insight.* 8: . [PubMed](#)
3. Enriquez AB, *et al.* 2022. *iScience.* 25:104305. [PubMed](#)
4. Enriquez AB, *et al.* 2022. *iScience.* 25:104305. [PubMed](#)
5. Dikiy S, *et al.* 2021. *Immunity.* 54(5):931-946.e11. [PubMed](#)
6. de Winde CM, *et al.* 2021. *J Cell Sci.* 134: . [PubMed](#)
7. Dammeijer F, *et al.* 2020. *Cancer Cell.* 38(5):685-700.e8. [PubMed](#)

## RRID

AB\_2734155 (BioLegend Cat. No. 103157)

## Antigen Details

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<b>Structure</b>	Protein tyrosine phosphatase (PTP) family, 180-240 kD
<b>Distribution</b>	All hematopoietic cells except mature erythrocytes and platelets
<b>Function</b>	Phosphatase, T and B cell activation
<b>Ligand/Receptor</b>	Galectin-1, CD2, CD3, CD4, TCR, CD22, Thy-1
<b>Cell Type</b>	B cells, Dendritic cells, Mesenchymal Stem Cells, Tregs
<b>Biology Area</b>	Cell Biology, Immunology, Inhibitory Molecules, Innate Immunity, Neuroscience, Neuroscience Cell Markers, Stem Cells
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Barclay A, <i>et al.</i> 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press.</li><li>2. Trowbridge IS, <i>et al.</i> 1993. <i>Annu. Rev. Immunol.</i> 12:85.</li><li>3. Kishihara K, <i>et al.</i> 1993. <i>Cell</i> 74:143.</li><li>4. Pulido R, <i>et al.</i> 1988. <i>J. Immunol.</i> 140:3851.</li></ol>
<b>Gene ID</b>	<a href="#">19264</a>

## Related Protocols

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- [Cell Surface Flow Cytometry Staining Protocol](#)

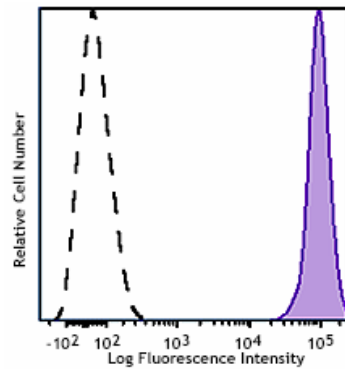
## Other Formats

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Brilliant Violet 570™ anti-mouse CD45, Brilliant Violet 421™ anti-mouse CD45, Brilliant Violet 510™ anti-mouse CD45, Brilliant Violet 605™ anti-mouse CD45, Purified anti-mouse CD45 (Maxpar® Ready), APC anti-mouse CD45, Biotin anti-mouse CD45, FITC anti-mouse CD45, PE anti-mouse CD45, Alexa Fluor® 594 anti-mouse CD45, Purified anti-mouse CD45, Brilliant Violet 785™ anti-mouse CD45, Brilliant Violet 650™ anti-mouse CD45, APC/Fire™ 750 anti-mouse CD45, PE/Cyanine5 anti-mouse CD45, Brilliant Violet 711™ anti-mouse CD45, PE/Dazzle™ 594 anti-mouse CD45, Spark Blue™ 574 anti-mouse CD45 Antibody, Spark Blue™

515 anti-mouse CD45, PE/Fire™ 810 anti-mouse CD45, Spark YG™ 593 anti-mouse CD45, Spark UV™ 387 anti-mouse CD45, Brilliant Violet 750™ anti-mouse CD45, TotalSeq™-A0096 anti-mouse CD45, TotalSeq™-C0096 anti-mouse CD45, Spark YG™ 570 anti-mouse CD45, PE/Fire™ 700 anti-mouse CD45, Spark NIR™ 685 anti-mouse CD45, Spark PLUS UV395™ anti-mouse CD45, StarBright UltraViolet 740 anti-mouse CD45, APC/Cyanine7 anti-mouse CD45, Alexa Fluor® 700 anti-mouse CD45, PerCP anti-mouse CD45, Spark YG™ 581 anti-mouse CD45 (Flexi-Fluor™), Alexa Fluor® 488 anti-mouse CD45, Alexa Fluor® 647 anti-mouse CD45, Pacific Blue™ anti-mouse CD45, Spark Violet™ 538 anti-mouse CD45, Spark PLUS V475™ anti-mouse CD45 Antibody, PE/Fire™ 744 anti-mouse CD45, PerCP/Cyanine5.5 anti-mouse CD45, TotalSeq™-B0096 anti-mouse CD45, Ultra-LEAF™ Purified anti-mouse CD45, Spark Blue™ 550 anti-mouse CD45, PE/Cyanine7 anti-mouse CD45, PE/Fire™ 640 anti-mouse CD45, APC/Fire™ 810 anti-mouse CD45, Spark Red™ 718 anti-mouse CD45

## Product Data



C57BL/6 mouse splenocytes were stained with CD45 (clone 30-F11) Brilliant Violet 750™ (closed histogram). Open histogram represents unstained cells.

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