

Brilliant Violet 570™ anti-human HLA-DR Antibody

Catalog# / Size	307637 / 25 tests 307638 / 100 tests
Clone	L243
Regulatory Status	RUO
Other Names	Major Histocompatibility Class II, MHC class II
Isotype	Mouse IgG2a, κ
Description	HLA-DR is a heterodimeric cell surface glycoprotein comprised of a 36 kD α (heavy) chain and a 27 kD β (light) chain. It is expressed on B cells, activated T cells, monocytes/macrophages, dendritic cells, and other non-professional APCs. In conjunction with the CD3/TCR complex and CD4 molecules, HLA-DR is critical for efficient peptide presentation to CD4 ⁺ T cells.

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	African Green, Baboon, Chimpanzee, Dog, Common Marmoset, Squirrel Monkey, Cotton-topped Tamarin
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 Brilliant Violet 570™ 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.

Brilliant Violet 570™ excites at 405 nm and emits at 570 nm. The bandpass filter 585/42 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 570™ is a trademark of Sirigen Group Ltd.

[Learn more about Brilliant Violet™.](#)

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.

Excitation Laser	Violet Laser (405 nm)
-------------------------	-----------------------

Application Notes	The L243 monoclonal antibody reacts with the HLA-DR antigen, a member of MHC class II molecules. It does not cross react with HLA-DP and HLA-DQ. Clone L243 binds a conformational epitope on HLA-DRα which depends on the correct folding of the αβ heterodimer. ¹⁹
--------------------------	---

Additional reported applications (for the relevant formats) include: immunoprecipitation⁸, Western

blotting⁸, *in vitro* blocking of mixed lymphocyte reactions^{9,10}, depletion of MHC class II cells⁷, immunohistochemical staining of acetone-fixed frozen sections^{4,5}, and spatial biology (IBEX)^{21,22}. For sensitive functional assays, we recommend using the Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/μg, Azide-Free, 0.2 μm filtered) (Cat. No. 307648, 307665 - 307669).

Application References

(PubMed link indicates BioLegend citation)

1. Brodsky F. 1984. *Immunogenetics* 19:179.
2. Robbins P, et al. 1987. *Human Immunol.* 18:301.
3. Stites D, et al. 1986. *Clin. Immunol. Immunopathol.* 38:161.
4. Warnke R, et al. 1980. *J. Histochem. Cytochem.* 28:771. (IHC)
5. Engleman E, et al. 1981. *P. Natl. Acad. Sci. USA* 78:1791. (IHC)
6. Zipf T, et al. 1981. *Cancer Res.* 41:4786.
7. Goodier M, et al. 2000. *J. Immunol.* 165:139. (Depletion)
8. Esser M, et al. 2001. *J. Virol.* 75:6173. (IP, WB)
9. Kalka-Moll WM, et al. 2002. *J. Immunol.* 169:6149. (Block)
10. Wang RF, et al. 1999. *Science* 284:1351. (Block)
11. Zaba LC, et al. 2007. *J. Exp. Med.* 204:3183. [PubMed](#)
12. Fujita H, et al. 2009. *P. Natl. Acad. Sci. USA* 106:21795. [PubMed](#)
13. Charles N, et al. 2010. *Nat. Med.* 16:701. (FC) [PubMed](#)
14. Goncalves RM, et al. 2010. *Infect. Immun.* 78:4763. [PubMed](#)
15. Yoshino N, et al. 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
16. Kim WK, et al. 2006. *Am. J. Pathol.* 168:822. (FC)
17. Stein R, et al. 2011. *Leuk. Lymphoma* 52:273.
18. Galkowska H, et al. 1996. *Vet. Immunol. Immunopathol.* 53:329.
19. Moro M, et al. 2005. *BMC Immunol.* 6:24.
20. Lauterbach N, et al. 2014. *Mol Immunol.* 59:19. [PubMed](#)
21. Radtke AJ, et al. 2020. *Proc Natl Acad Sci USA.* 117:33455-33465. (SB) [PubMed](#)
22. Radtke AJ, et al. 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

Product Citations

1. Pablo-Bernal R, et al. 2016. *J Gerontol A Biol Sci Med Sci.* 71: 610 - 618. [PubMed](#)
2. Pernas M, et al. 2017. *J Virol.* 92:e01805. [PubMed](#)
3. Vijayakumar B, et al. 2022. *Immunity.* . [PubMed](#)
4. Kreutmair S, et al. 2021. *Immunity.* . [PubMed](#)
5. Camiolo MJ, et al. 2021. *Cell Reports.* 35(2):108974. [PubMed](#)
6. Bayik D, et al. 2020. *Cancer Discov.* 1.256944444. [PubMed](#)
7. Martínez-López M et al. 2019. *Immunity.* 50(2):446-461 . [PubMed](#)
8. Dos Santos JC, et al. 2019. *Cell Rep.* 28:2659. [PubMed](#)
9. Den Braanker H, et al. 2021. *Front Immunol.* 12:768113. [PubMed](#)
10. Pasciuto E, et al. 2020. *Cell.* 182:625. [PubMed](#)
11. Li H, et al. 2013. *PLoS One.* 8:64923. [PubMed](#)
12. Vanderbeke L, et al. 2021. *Nat Commun.* 12:4117. [PubMed](#)

RRID

AB_10895753 (BioLegend Cat. No. 307637)
AB_2650882 (BioLegend Cat. No. 307638)

Antigen Details

Structure	Ig superfamily, MHC class II, heterodimeric transmembrane protein, 36 kD heavy and 27 kD light chain
Distribution	B cells, activated T cells, monocytes/macrophages, dendritic cells, other APCs
Function	Peptide presentation
Ligand/Receptor	CD3/TCR, CD4
Cell Type	Antigen-presenting cells, B cells, Dendritic cells, Macrophages, Monocytes, T cells, Tregs
Biology Area	Immunology, Innate Immunity
Molecular Family	MHC Antigens
Antigen References	<ol style="list-style-type: none">1. Levacher M, et al. 1990. <i>Clin. Exp. Immunol.</i> 81:177.2. Terstappen L, et al. 1990. <i>J. Leukocyte Biol.</i> 48:138.3. Edwards JA, et al. 1986. <i>J. Immunol.</i> 137:490.4. van Es A, et al. 1984. <i>Transplantation</i> 37:65.5. O'Doherty U, et al. 1994. <i>Immunology</i> 82:487.6. Thomas R, et al. 1994. <i>J. Immunol.</i> 153:4016.7. Grouard G, et al. 1996. <i>Nature</i> 384:364.

Gene ID

[3122](#)
[3123](#)

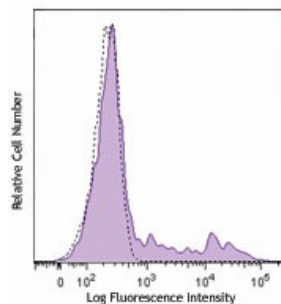
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

APC anti-human HLA-DR, FITC anti-human HLA-DR, PE anti-human HLA-DR, PE/Cyanine5 anti-human HLA-DR, Purified anti-human HLA-DR, Biotin anti-human HLA-DR, PE/Cyanine7 anti-human HLA-DR, APC/Cyanine7 anti-human HLA-DR, Alexa Fluor® 488 anti-human HLA-DR, Alexa Fluor® 647 anti-human HLA-DR, Pacific Blue™ anti-human HLA-DR, Alexa Fluor® 700 anti-human HLA-DR, PerCP anti-human HLA-DR, PerCP/Cyanine5.5 anti-human HLA-DR, Brilliant Violet 605™ anti-human HLA-DR, Brilliant Violet 421™ anti-human HLA-DR, Brilliant Violet 570™ anti-human HLA-DR, Brilliant Violet 711™ anti-human HLA-DR, Brilliant Violet 785™ anti-human HLA-DR, Brilliant Violet 510™ anti-human HLA-DR, Ultra-LEAF™ Purified anti-human HLA-DR, Brilliant Violet 650™ anti-human HLA-DR, Purified anti-human HLA-DR (Maxpar® Ready), PE/Dazzle™ 594 anti-human HLA-DR, APC/Fire™ 750 anti-human HLA-DR, TotalSeq™-A0159 anti-human HLA-DR, TotalSeq™-B0159 anti-human HLA-DR, TotalSeq™-C0159 anti-human HLA-DR, Brilliant Violet 750™ anti-human HLA-DR, APC/Fire™ 810 anti-human HLA-DR, PE/Fire™ 640 anti-human HLA-DR, Spark Violet™ 538 anti-human HLA-DR Antibody, KIRAVIA Blue 520™ anti-human HLA-DR, TotalSeq™-D0159 anti-human HLA-DR, PE/Fire™ 810 anti-human HLA-DR, GMP PE/Dazzle™ 594 anti-human HLA-DR, Spark Violet™ 423 anti-human HLA-DR, GMP FITC anti-human HLA-DR, GMP APC anti-human HLA-DR, GMP PE/Cyanine7 anti-human HLA-DR, GMP Pacific Blue™ anti-human HLA-DR, GMP APC/Fire™ 750 anti-human HLA-DR, Spark Violet™ 500 anti-human HLA-DR

Product Data



Human peripheral blood lymphocytes were stained with HLA-DR (clone L243) Brilliant Violet 570™ (filled histogram) or mouse IgG2a, κ Brilliant Violet 570™ isotype control (open histogram).

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