

## PE/Cyanine7 anti-human HLA-DR Antibody

<b>Catalog# / Size</b>	307615 / 25 tests 307616 / 100 tests
<b>Clone</b>	L243
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Major Histocompatibility Class II, MHC class II
<b>Isotype</b>	Mouse IgG2a, κ
<b>Description</b>	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 <sup>+</sup> T cells.

### Product Details

---

<b>Verified Reactivity</b>	Human, Cynomolgus, Rhesus
<b>Reported Reactivity</b>	African Green, Baboon, Chimpanzee, Dog, Common Marmoset, Squirrel Monkey, Cotton-topped Tamarin
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<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 PE/Cyanine7 under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<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>	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 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood.
<b>Excitation Laser</b>	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
<b>Application Notes</b>	<p>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.<sup>19</sup></p> <p>Additional reported applications (for the relevant formats) include: immunoprecipitation<sup>8</sup>, Western blotting<sup>8</sup>, <i>in vitro</i> blocking of mixed lymphocyte reactions<sup>9,10</sup>, depletion of MHC class II cells<sup>7</sup>, immunohistochemical staining of acetone-fixed frozen sections<sup>4,5</sup>, and spatial biology (IBEX)<sup>21,22</sup>. For sensitive functional assays, we recommend using the Ultra-LEAF™ purified antibody (Endotoxin &lt; 0.01 EU/µg, Azide-Free, 0.2 µm filtered) (Cat. No. 307648, 307665 - 307669).</p>
<b>Additional Product Notes</b>	BioLegend is in the process of converting the name PE/Cy7 to PE/Cyanine7. The dye molecule remains the same, so you should expect the same quality and performance from our PE/Cyanine7 products. Please contact <a href="#">Technical Service</a> if you have any questions.
<b>Application References</b>	<ol style="list-style-type: none"> <li>1. Brodsky F. 1984. <i>Immunogenetics</i> 19:179.</li> <li>2. Robbins P, <i>et al.</i> 1987. <i>Human Immunol.</i> 18:301.</li> <li>3. Stites D, <i>et al.</i> 1986. <i>Clin. Immunol. Immunopathol.</i> 38:161.</li> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	

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. Du X, *et al.* 2018. *Cell Res.* 28:416. [PubMed](#)
2. Neff CP *et al.* 2018. *EBioMedicine.* 30:192-202. [PubMed](#)
3. Orengo JM, *et al.* 2018. *Nat Commun.* 9:1421. [PubMed](#)
4. Zhu YP *et al.* 2018. *Cell reports.* 24(9):2329-2341. [PubMed](#)
5. Ivan Jelcic *et al.* 2018. *Cell.* 175(1):85-100. [PubMed](#)
6. Alissafi T, *et al.* 2018. *J Clin Invest.* 128:3840. [PubMed](#)
7. Luo N, *et al.* 2018. *Nat Commun.* 0.547222222. [PubMed](#)
8. Mastoridis S, *et al.* 2018. *Front Immunol.* 1.474305556. [PubMed](#)
9. Zhang M, *et al.* 2018. *Virology.* 0.735416667. [PubMed](#)
10. Martín-Gayo E, *et al.* 2020. *Cell Rep.* 30:984. [PubMed](#)
11. Domingos-Pereira S, *et al.* 2019. *Cancer Immunol Res.* 7:621. [PubMed](#)
12. Mothe B, *et al.* 2020. *Front Immunol.* 1.029861111. [PubMed](#)
13. Causi E, *et al.* 2015. *PLoS One.* 10: 0136717. [PubMed](#)
14. Johnson D, *et al.* 2016. *Nat Commun.* 7:10582. [PubMed](#)
15. Macal M, *et al.* 2016. *J Immunol.* 196: 1900 - 1909. [PubMed](#)
16. Pennington L, *et al.* 2016. *Nat Commun.* 7:11610. [PubMed](#)
17. Barman S, *et al.* 2016. *Int Immunol.* 28: 533 - 545. [PubMed](#)
18. Gibellini L, *et al.* 2020. *EMBO Mol Med.* 12:e13001. [PubMed](#)
19. Garrido-Martin EM, *et al.* 2020. *J Immunother Cancer.* 8:00. [PubMed](#)

## RRID

AB\_493589 (BioLegend Cat. No. 307615)  
 AB\_493588 (BioLegend Cat. No. 307616)

## Antigen Details

---

<b>Structure</b>	Ig superfamily, MHC class II, heterodimeric transmembrane protein, 36 kD heavy and 27 kD light chain
<b>Distribution</b>	B cells, activated T cells, monocytes/macrophages, dendritic cells, other APCs
<b>Function</b>	Peptide presentation
<b>Ligand/Receptor</b>	CD3/TCR, CD4
<b>Cell Type</b>	Antigen-presenting cells, B cells, Dendritic cells, Macrophages, Monocytes, T cells, Tregs
<b>Biology Area</b>	Immunology, Innate Immunity
<b>Molecular Family</b>	MHC Antigens
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>1. Levacher M, <i>et al.</i> 1990. <i>Clin. Exp. Immunol.</i> 81:177.</li> <li>2. Terstappen L, <i>et al.</i> 1990. <i>J. Leukocyte Biol.</i> 48:138.</li> <li>3. Edwards JA, <i>et al.</i> 1986. <i>J. Immunol.</i> 137:490.</li> <li>4. van Es A, <i>et al.</i> 1984. <i>Transplantation</i> 37:65.</li> <li>5. O'Doherty U, <i>et al.</i> 1994. <i>Immunology</i> 82:487.</li> <li>6. Thomas R, <i>et al.</i> 1994. <i>J. Immunol.</i> 153:4016.</li> <li>7. Grouard G, <i>et al.</i> 1996. <i>Nature</i> 384:364.</li> </ol>

## Gene ID

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

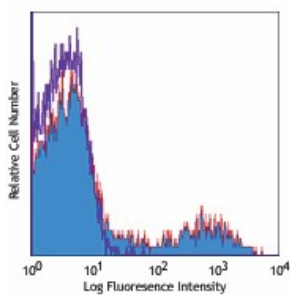
## Related Protocols

[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

## Product Data



Human peripheral blood lymphocytes  
stained with L243 PE/Cyanine7

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](http://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](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587