

## Ultra-LEAF™ Purified anti-human HLA-DR Antibody

<b>Catalog# / Size</b>	307665 / 100 µg 307648 / 1 mg 307666 / 5 mg 307667 / 25 mg 307668 / 50 mg 307669 / 100 mg
<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>	0.2 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is <0.01 EU/µg of the protein (<0.001 ng/µg of the protein) as determined by the LAL test.
<b>Preparation</b>	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
<b>Concentration</b>	The antibody is bottled at the concentration indicated on the vial, typically between 2 mg/mL and 3 mg/mL. Older lots may have also been bottled at 1 mg/mL. 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. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
<b>Application</b>	<a href="#">FC - Quality tested</a> <a href="#">CyTOF® - Verified</a> <a href="#">IP, WB, Block, IHC-F - Reported in the literature, not verified in house</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 ≤ 0.5 µg per million cells in 100 µl volume or 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	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-DRA which depends on the correct folding of the αβ heterodimer. <sup>19</sup>  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 < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) (Cat. No. 307648, 307665 - 307669).
<b>Application References</b>	1. Brodsky F. 1984. <i>Immunogenetics</i> 19:179.

(PubMed link indicates BioLegend citation)

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3. Stites D, *et al.* 1986. *Clin. Immunol. Immunopathol.* 38:161.
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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](#)
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17. Stein R, *et al.* 2011. *Leuk. Lymphoma* 52:273.
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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](#)
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#### Product Citations

1. Montes de Oca M, *et al.* 2016. *Cell Rep.* 17:399-412. [PubMed](#)
2. Eleftheriadis T, *et al.* 2021. *Int J Mol Sci.* 22:.. [PubMed](#)
3. Abe S, *et al.* 2020. *JCI Insight.* 5:00. [PubMed](#)
4. Baleeiro RB, *et al.* 2022. *Oncoimmunology.* 11:2080329. [PubMed](#)
5. Thrash EM, *et al.* 2020. *STAR Protoc.* 1:100055. [PubMed](#)
6. Kumar R, *et al.* 2020. *Cell Reports.* 30(8):2512-2525. [PubMed](#)
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#### RRID

AB\_2800796 (BioLegend Cat. No. 307665)  
AB\_2561493 (BioLegend Cat. No. 307648)  
AB\_2800797 (BioLegend Cat. No. 307666)  
AB\_2800798 (BioLegend Cat. No. 307667)  
AB\_2800799 (BioLegend Cat. No. 307668)  
AB\_2800800 (BioLegend Cat. No. 307669)

## Antigen Details

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<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>
<b>Gene ID</b>	<a href="#">3122</a> <a href="#">3123</a>

## Related Protocols

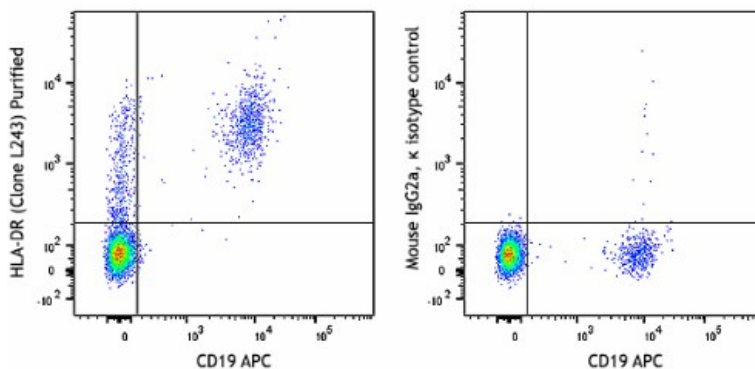
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[Cell Surface Flow Cytometry Staining Protocol](#)

## 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 CD19 APC and HLA-DR (clone L243) Purified (left) or Purified mouse IgG2a, κ isotype control (right) followed by anti-mouse IgG FITC.

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