

## Brilliant Violet 570™ anti-human HLA-DR Antibody

<b>Catalog# / Size</b>	307637 / 25 tests 307638 / 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, $\kappa$
<b>Description</b>	HLA-DR is a heterodimeric cell surface glycoprotein comprised of a 36 kD $\alpha$ (heavy) chain and a 27 kD $\beta$ (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

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<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 Brilliant Violet 570™ 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 $\mu$ l per million cells in 100 $\mu$ l staining volume or 5 $\mu$ l per 100 $\mu$ l 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™.](#)

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<b>Excitation Laser</b>	Violet Laser (405 nm)
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<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-DR $\alpha$ which depends on the correct folding of the $\alpha\beta$ heterodimer. <sup>19</sup>
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Additional reported applications (for the relevant formats) include: immunoprecipitation<sup>8</sup>, Western

blotting<sup>8</sup>, *in vitro* 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).

#### Application References

(PubMed link indicates BioLegend citation)

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2. Robbins P, et al. 1987. *Human Immunol.* 18:301.
3. Stites D, et al. 1986. *Clin. Immunol. Immunopathol.* 38:161.
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5. Engleman E, et al. 1981. *P. Natl. Acad. Sci. USA* 78:1791. (IHC)
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21. Radtke AJ, et al. 2020. *Proc Natl Acad Sci USA.* 117:33455-33465. (SB) [PubMed](#)
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#### Product Citations

1. Martínez-López M et al. 2019. *Immunity.* 50(2):446-461. [PubMed](#)
2. Dos Santos JC, et al. 2019. *Cell Rep.* 28:2659. [PubMed](#)
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#### RRID

AB\_10895753 (BioLegend Cat. No. 307637)  
AB\_2650882 (BioLegend Cat. No. 307638)

## Antigen Details

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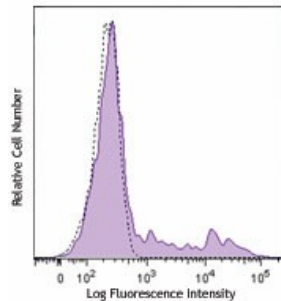
<b>Structure</b>	Ig superfamily, MHC class II, heterodimeric transmembrane protein, 36 kD heavy and 27 kD light chain
<b>Distribution</b>	B cells, activated T cells, monocytes/macrophages, dendritic cells, other APCs
<b>Function</b>	Peptide presentation
<b>Ligand/Receptor</b>	CD3/TCR, CD4
<b>Cell Type</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, et al. 1990. <i>Clin. Exp. Immunol.</i> 81:177.</li><li>2. Terstappen L, et al. 1990. <i>J. Leukocyte Biol.</i> 48:138.</li><li>3. Edwards JA, et al. 1986. <i>J. Immunol.</i> 137:490.</li><li>4. van Es A, et al. 1984. <i>Transplantation</i> 37:65.</li><li>5. O'Doherty U, et al. 1994. <i>Immunology</i> 82:487.</li><li>6. Thomas R, et al. 1994. <i>J. Immunol.</i> 153:4016.</li><li>7. Grouard G, et al. 1996. <i>Nature</i> 384:364.</li></ol>
<b>Gene ID</b>	<a href="#">3122</a> <a href="#">3123</a>

## Related Protocols

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

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