

Alexa Fluor® 488 anti-human HLA-DR Antibody

Catalog# / Size	307619 / 25 tests 307620 / 100 tests 307656 / 100 µg
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	µg size: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide. test sizes: 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 Alexa Fluor® 488 under optimal conditions.
Concentration	µg sizes: 0.5 mg/mL test sizes: 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 SB - Reported in the literature, not verified in house
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining using the µg size, the suggested use of this reagent is ≤1.0 µg per million cells in 100 µl volume. For flow cytometric staining using test sizes, 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. * Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Blue Laser (488 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: immunoprecipitation ⁸ , Western blotting ⁸ , <i>in vitro</i> blocking of mixed lymphocyte reactions ^{9,10} , depletion of MHC class II cells ⁷ , 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).

Additional Product Notes

Iterative Bleaching Extended multi-pleXity (IBEX) is a fluorescent imaging technique capable of highly-multiplexed spatial analysis. The method relies on cyclical bleaching of panels of fluorescent antibodies in order to image and analyze many markers over multiple cycles of staining, imaging, and, bleaching. It is a community-developed open-access method developed by the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

Application References

(PubMed link indicates BioLegend citation)

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Product Citations

1. Roberts A, et al. 2021. *Sci Rep.* 11:4030. [PubMed](#)
2. Casasola-LaMacchia A, et al. 2021. *Sci Rep.* 11:1028. [PubMed](#)
3. Lamichhane R, et al. 2020. *Eur J Immunol.* 50:178. [PubMed](#)
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RRID

AB_493176 (BioLegend Cat. No. 307619)
AB_493175 (BioLegend Cat. No. 307620)
AB_2564168 (BioLegend Cat. No. 307656)

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](#)

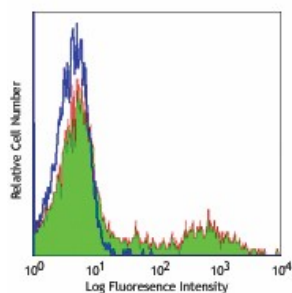
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

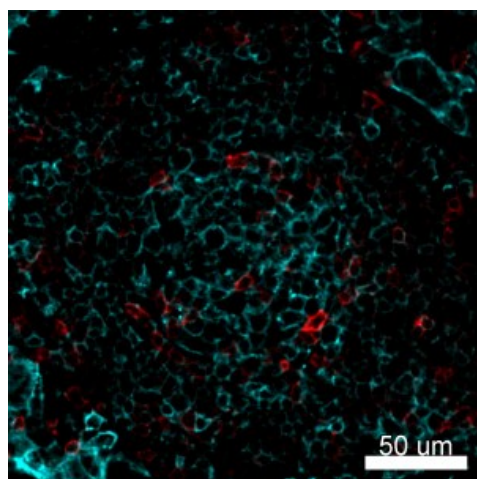
Other Formats

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

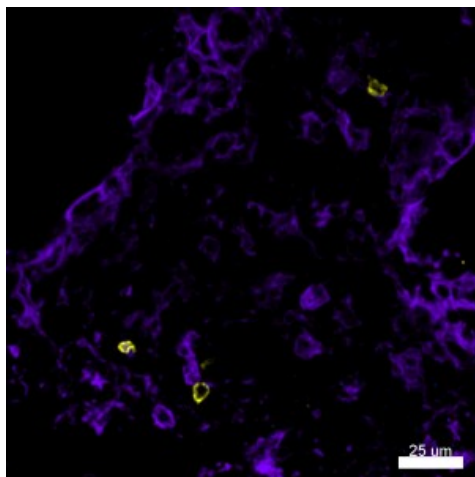
Product Data



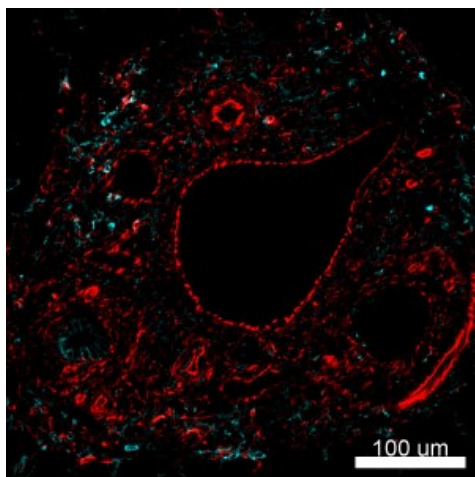
Human peripheral blood lymphocytes stained with L243 Alexa Fluor® 488



Confocal image of human lymph node sample acquired using the IBEX method of highly multiplexed antibody-based imaging: HLA-DR (cyan) in Cycle 3, CD69 (red) in Cycle 5. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).



Confocal image of human lymph node sample acquired using the IBEX method of highly multiplexed antibody-based imaging: HLA-DR (purple) in Cycle 3 and Va7.2 (yellow) in Cycle 7. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).



Confocal image of human liver sample acquired using the IBEX method of highly multiplexed antibody-based imaging: HLA-DR (cyan) in Cycle 2 and Vimentin (red) in Cycle 4. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

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