

Anti-Human HLA-DR Antibody, Clone L243, FITC



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

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Antibodies

Mouse monoclonal IgG2a antibody
against human, rhesus, cynomolgus HLA-DR,
FITC-conjugated

Catalog #100-0308	25 tests	5 µL/test
Catalog #100-0309	100 tests	5 µL/test
Catalog #100-0310	500 tests	5 µL/test

Product Description

The L243 antibody reacts with HLA-DR, the human major histocompatibility complex (MHC) class II receptor and a member of the immunoglobulin protein superfamily. HLA-DR is a heterodimeric transmembrane glycoprotein comprising a 36-kDa α subunit associated non-covalently with a 27-kDa β subunit and is expressed on the surface of antigen-presenting cells such as B cells, activated T cells, monocytes, macrophages and dendritic cells, as well as activated natural killer (NK) cells and progenitor cells. Together with the CD3/T cell receptor (TCR) complex and CD4 molecules, HLA-DR mediates a critical function in presenting peptides generated from hydrolysis of exogenous antigens by antigen-presenting cells to CD4+ T (helper) cells, thereby either suppressing or inducing an immune response to the peptides. Thus, the function of HLA-DR is involved in graft-versus-host disease and several autoimmune conditions. The L243 antibody binds an extracellular, conformational and non-polymorphic epitope on the α chain that is expressed only when the $\alpha\beta$ heterodimer is correctly folded, and binding is not dependent on peptide loading of HLA-DR. Binding of the antibody blocks the association of HLA-DR with TCRs and reportedly exerts cytotoxic effects on human cells. The L243 antibody does not cross-react with HLA-DQ or HLA-DP.

Target Antigen Name:	HLA-DR
Alternative Names:	HLA-DRA, Major histocompatibility class II, Major histocompatibility class II DR alpha, MHC class II, MHC class II DR alpha, MGC117330, MLRW
Gene ID:	3122, 3123
Species Reactivity:	Human, Rhesus, Cynomolgus, Baboon, Chimpanzee, African Green Monkey, Pig-tailed Macaque, Squirrel Monkey, Common Marmoset, Cotton-topped Tamarin, Dog
Host Species:	Mouse (BALB/c)
Clonality:	Monoclonal
Clone:	L243
Isotype:	IgG2a, kappa
Immunogen:	Human lymphoblastoid B cell line RPMI 8866.9
Conjugate:	FITC (Fluorescein isothiocyanate)

Applications

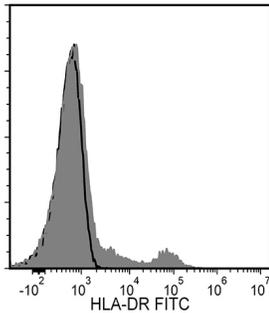
Verified:	FC
Reported:	FC
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ Human Resting CD4+ T Cell Isolation Kit (Catalog #17962).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered saline, pH 7.2, containing 0.09% sodium azide, 0.1% gelatin, and < 0.2% (w/v) bovine serum albumin
Purification:	The antibody was purified by affinity chromatography and conjugated with FITC under optimal conditions. The solution is free of unconjugated FITC.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com .
Directions for Use:	For flow cytometry, the suggested use of this reagent is $\leq 5 \mu\text{L}$ per 1×10^6 cells in 100 μL . It is recommended that the antibody be titrated for optimal performance for each application.

Data



Flow cytometry analysis of human peripheral blood mononuclear cells (PBMCs) labeled with Anti-Human HLA-DR Antibody, Clone L243, FITC (filled histogram) or a mouse IgG2a, kappa FITC isotype control antibody (solid line histogram). Viable lymphocytes were gated for analysis.

Related Products

For a complete list of antibodies, including other conjugates, sizes, and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Wagner J et al. (2019) A single-cell atlas of the tumor and immune ecosystem of human breast cancer. *Cell* 177(5): 1330–45.e18. (CyTOF®)
2. Jönsson P et al. (2016) Remarkably low affinity of CD4/peptide-major histocompatibility complex class II protein interactions. *Proc Natl Acad Sci* 113(20): 5682–7. (FC, Surface plasmon resonance)
3. Nagafuchi Y et al. (2016) Immunophenotyping of rheumatoid arthritis reveals a linkage between HLA-DRB1 genotype, CXCR4 expression on memory CD4+ T cells and disease activity. *Sci Rep* 6(1): 29338. (FA/Blocking, FC)
4. Grabowska AK et al. (2015) Identification of promiscuous HPV16-derived T helper cell epitopes for therapeutic HPV vaccine design. *Int J Cancer* 136(1): 212–24. (FA/Blocking)
5. McNally AK & Anderson JM. (2011) Foreign body-type multinucleated giant cells induced by interleukin-4 express select lymphocyte co-stimulatory molecules and are phenotypically distinct from osteoclasts and dendritic cells. *Exp Mol Pathol* 91(3): 673–81. (ICC, IF)
6. Stein R et al. (2011) Evaluation of anti-human leukocyte antigen-DR monoclonal antibody therapy in spontaneous canine lymphoma. *Leuk Lymphoma* 52(2): 273–84. (FA, FC)
7. Laing BJ et al. (2010) Glutaraldehyde treatment of allograft tissue decreases allosensitization after the Norwood procedure. *J Thorac Cardiovasc Surg* 139(6): 1402–8. (IHC)
8. Moro M et al. (2005) Generation of functional HLA-DR*1101 tetramers receptive for loading with pathogen- or tumour-derived synthetic peptides. *BMC Immunol* 6: 24. (Dot-blotting, Immunoaffinity chromatography, IP)
9. Esser MT et al. (2001) Differential incorporation of CD45, CD80 (B7-1), CD86 (B7-2), and major histocompatibility complex class I and II molecules into human immunodeficiency virus type 1 virions and microvesicles: implications for viral pathogenesis and immune regulation. *J Virol* 75(13): 6173–82. (FC, WB)
10. Doebele RC et al. (2000) Determination of the HLA-DM interaction site on HLA-DR molecules. *Immunity* 13(4): 517–27. (FC)
11. Brodsky FM. (1984) A matrix approach to human class II histocompatibility antigens: reactions of four monoclonal antibodies with the products of nine haplotypes. *Immunogenetics* 19(3): 179–94. (IP, RIA)

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