Antibodies

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

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

Catalog #100-0335	25 tests	5 µL/test
Catalog #100-0336	100 tests	5 µL/test

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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 αβ 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:	APC (Allophycocyanin)

Applications

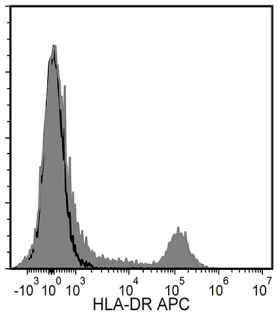
Verified:	FC
Reported:	FC
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ Human Resting CD4+ T Cell Isolation Kit (Catalog #17962).

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 APC under optimal conditions. The solution is free of unconjugated APC.
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 ≤ 5 µL per 1 x 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, APC (filled histogram) or a mouse IgG2a, kappa APC 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)