Anti-Mouse MHC Class II (I-A/I-E)
Antibody, Clone M5/114.15.2, PE

Antibodies

Rat monoclonal IgG2b antibody
against mouse MHC Class II (I-A/I-E),
PE-conjugated

Catalog #100-0292   25 µg   0.2 mg/mL
Catalog #100-0293   100 µg   0.2 mg/mL

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Product Description

The M5/114.15.2 (M5/114) antibody reacts with an extracellular epitope on the mouse major histocompatibility complex class II receptor (MHC-II). MHC-II is a heterodimeric transmembrane glycoprotein comprising an α subunit associated non-covalently with a β subunit. In mice, MHC-II complexes are designated I-A and I-E and comprise Aα/Aβ and Eα/Eβ heterodimers, respectively. Together with the CD3/T cell receptor (TCR) complex and CD4 molecules, MHC-II 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. The M5/114.15.2 antibody recognizes a polymorphic determinant shared by the I-Ab, I-Ad, I-Aq, I-Ed, and I-Ek (but not I-Af, I-Ak or I-As) MHC class II alloantigens expressed on B cells, dendritic cells, macrophages, monocytes and activated T cells of mice carrying the H-2b, d, p, q, r and u haplotypes (but not haplotypes H-2f or H-2s). The M5/114 antibody reportedly inhibits I-A-restricted responses by T cells of the H-2b, d, q and u (but not H-2f, k or s) haplotypes. It does not react with cells from NOD (H-2g7) mice.

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Target Antigen Name:	I-Ab, I-Ad, I-Aq, I-Ed, and I-Ek
Alternative Names:	IA, I-A, IA/IE, I-A/E, MHC class II, MHC-II
Gene ID:	14961/14969
Species Reactivity:	Mouse
Host Species:	Rat (BN x LEW)
Clonality:	Monoclonal
Clone:	M5/114.15.2 (M5/114)
Isotype:	IgG2b, kappa
Immunogen:	Mixture of activated C57BL/6 mouse splenocytes and anti-irradiated BN rat lymphoma-derived lymphocytes
Conjugate:	PE (Phycoerythrin)

Applications

Verified:	FC
Reported:	FC
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ Mouse CD11c Positive Selection Kit II (Catalog #18780).

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 and 0.1% gelatin
Purification:	The antibody was purified by affinity chromatography and conjugated with PE under optimal conditions. The solution is free of unconjugated PE.
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 ≤ 0.06 µg per 1 x 10^6 cells in 100 µL. It is recommended that the antibody be titrated for optimal performance for each application.

Data
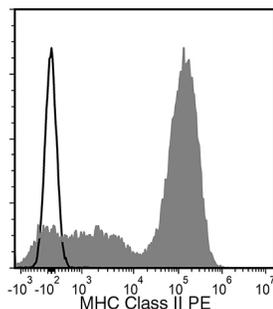
Flow cytometry analysis of C57BL/6 mouse splenocytes labeled with Anti-Mouse MHC Class II (I-A/I-E) Antibody, Clone M5/114.15.2, PE (filled histogram) or a rat IgG2b, kappa PE isotype control antibody (solid line histogram).

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. Mossadegh-Keller N & Sieweke M. (2019) Characterization of mouse adult testicular macrophage populations by immunofluorescence imaging and flow cytometry. BIO-PROTOCOL 9(5). (FC, IF, IHC)
2. Appel JR et al. (2018) Increased microglial activity, impaired adult hippocampal neurogenesis, and depressive-like behavior in microglial VPS35-depleted mice. J Neurosci 38(26): 5949–68. (WB)
3. Kadoki M et al. (2017) Organism-level analysis of vaccination reveals networks of protection across tissues. Cell 171(2): 398–413.e21. (FC)
4. Thome AD et al. (2016) microRNA-155 regulates alpha-synuclein-induced inflammatory responses in models of Parkinson disease. J Neurosci 36(8): 2383–90. (ICC, IF, IHC)
5. Xue W et al. (2016) SCIB2, an antibody DNA vaccine encoding NY-ESO-1 epitopes, induces potent antitumor immunity which is further enhanced by checkpoint blockade. Oncoimmunology 5(6): e1169353. (ELISpot/Blocking)
6. Oliphant CJ et al. (2014) MHCII-mediated dialog between group 2 innate lymphoid cells and CD4+ T cells potentiates type 2 immunity and promotes parasitic helminth expulsion. Immunity 41(2): 283–95. (FA/Blocking)
7. Gao Y et al. (2013) NK cells are necessary for recovery of corneal CD11c+ dendritic cells after epithelial abrasion injury. J Leukoc Biol 94(2): 343–51. (IF, IHC)
8. Staehli F et al. (2012) NLRC5 deficiency selectively impairs MHC class I-dependent lymphocyte killing by cytotoxic T cells. J Immunol 188(8): 3820–8. (FC)
9. Busman-Sahay K et al. (2011) The Ia.2 epitope defines a subset of lipid raft-resident MHC class II molecules crucial to effective antigen presentation. J Immunol 186(12): 6710–7. (IP)
10. Rayamajhi M et al. (2010) Induction of IFN-alphabeta enables Listeria monocytogenes to suppress macrophage activation by IFN-gamma. J Exp Med 207(2): 327–37. (FC)
11. Bhattacharya A et al. (1981) A shared alloantigenic determinant on Ia antigens encoded by the I-A and I-E subregions: evidence for I region gene duplication. J Immunol 127(6): 2488–95. (FC, IP, RIA)