

Store at
4°C

MHC Class II (I-A/I-E) (M5/114.15.2) Rat mAb (FITC Conjugate)



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Entrez-Gene ID #381091, 14960, 14961, 14969
UniProt ID #Q3U060, P14435, P06342, P18468

#42594

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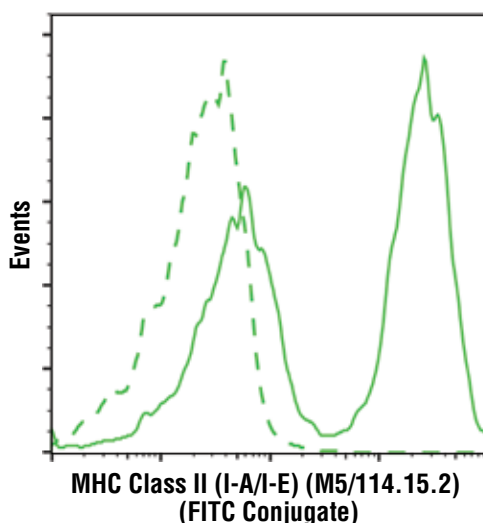
Applications	Species Cross-Reactivity	Isotype
F Endogenous	M	Rat IgG2b

Description: This Cell Signaling Technology antibody is conjugated to FITC and tested in-house for direct flow cytometric analysis in mouse cells.

Background: Major histocompatibility complex class II (MHC class II) molecules are heterodimeric, transmembrane glycoproteins expressed on the surface of antigen-presenting cells such as macrophages, dendritic cells, and B cells. Expression can also be induced on other cell types through interferon- γ signaling (1). Prior to being displayed on the cell membrane, MHC class II molecules are loaded with exogenous peptide antigens approximately 15-24 amino acids in length that were derived from endocytosed extracellular proteins digested in the lysosome (2). Antigen-presentation through MHC class II is required for T cell activation during the immune response to extracellular pathogens (2). In humans, the MHC class II protein complex is encoded by the human leukocyte antigen gene complex (HLA). HLAs corresponding to MHC class II are HLA-DP, HLA-DM, HLA-DOA, HLA-DOB, HLA-DQ, and HLA-DR (3). The M5/114.15.2 antibody reacts with mouse MHC class II, both I-A and I-E subregion-encoded glycoproteins (I-Ab, I-Ad, I-Aq, I-Ed, I-Ek, not I-Af, I-Ak, or I-As). It detects a polymorphic determinant present on B cells, monocytes, macrophages, dendritic cells, and activated T lymphocytes from mice carrying the H-2b, H-2d, H-2q, H-2p, H-2r and H-2u haplotypes, but not from mice carrying the H-2s or H-2f haplotypes (4-7). The M5/114 mAb is reported to inhibit I-A-restricted T cell responses of the H-2b, H-2d, H-2q, and H-2u haplotypes, but not H-2f, H-2k, or H-2s haplotypes (8,9).

Specificity/Sensitivity: MHC Class II (I-A/I-E) (M5/114.15.2) Rat mAb (FITC Conjugate) recognizes endogenous levels of total MHC class II (I-A/I-E) proteins. This antibody detects epitopes within the extracellular domain of MHC class II (I-A/I-E).

Source/Purification: This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.



Flow cytometric analysis of live mouse splenocytes using MHC Class II (I-A/I-E) (M5/114.15.2) Rat mAb (FITC Conjugate) (solid line) compared to concentration-matched Rat (LTF-2) mAb IgG2b Isotype Control (FITC Conjugate) #56722 (dashed line).

Storage: Supplied in 10 mM NaH₂PO₄, 150 mM NaCl, 0.09% Na₂S₂O₃, 0.1% gelatin, pH 7.2. This product is stable for 6 months when stored at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Recommended Antibody Dilutions:

Flow Cytometry 1:200

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

- (1) Ting, J.P. and Trowsdale, J. (2002) *Cell* 109 Suppl, S21-33.
- (2) Cresswell, P. (1994) *Annu Rev Immunol* 12, 259-93.
- (3) Karp, D.R. et al. (1990) *J Exp Med* 171, 615-28.
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- (6) Anderson, M.S. and Miller, J. (1992) *Proc Natl Acad Sci U S A* 89, 2282-6.
- (7) Miyazaki, T. et al. (1996) *Cell* 84, 531-41.
- (8) Parra, D. et al. (2012) *J Leukoc Biol* 91, 525-36.
- (9) Chen, M. et al. (2011) *J Immunol* 187, 5684-92.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster MK—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected **Species** enclosed in parentheses are predicted to react based on 100% homology.