Leinco Technologies, Inc.
excellence in early discovery research™

Anti-Mouse I-A/I-E (MHC Class II)

Purified *in vivo* GOLD™ Functional Grade

Monoclonal Antibody

Product Information

Product No.:	H271
Clone:	M5/114.15.2
RRID:	AB_2892895
Isotype:	Rat IgG2b

Product Description

Specificity:
Clone M5/114.15.2 recognizes an epitope on the mouse MHC class II molecules I-A^b, I-A^d, I-A^q, I-E^d, and I-E^k. Clone M5/114.15.2 does not react with I-A^f, I-A^k, or I-A^s.

Antigen Distribution:
I-$A^{b/d/q}$ and I-$E^{d/k}$ are expressed on antigen-presenting cells, including macrophages, monocytes, DCs, and B cells, and activated T cells from mice of the I-$A^{b/d/q}$ and I-$E^{d/k}$ haplotypes.

Background:
MHC class II antibody, clone M5/114.15.2, recognizes the major histocompatibility complex (MHC) class II molecules I-A^b, I-A^d, I-A^q, I-E^d, and I-E^k. MHC class II is constitutively expressed on professional antigen-presenting cells (APCs), including macrophages/monocytes, dendritic cells (DCs), and B cells, and is induced on T cells upon activation[1]. MHC class II consists of two transmembrane proteins, a 35 kDa α (heavy) chain and 29 kDa β (light) chain[2]. The N-terminal α1 and β1 domains form the antigen-binding groove, which binds 13-25 aa peptides derived from exogenous antigens[3]. On APCs, MHC class II plays a critical role in the adaptive immune response by presenting phagocytosed antigens to helper CD4 T cells. The T cell receptor (TCR)/CD3 complex of CD4 T cells interacts with peptide-MHC class II, which induces CD4 T cell activation leading to the coordination and regulation of other effector cells. CD4 molecules also bind to MHC class II, which helps augment TCR signaling[4]. It has also been demonstrated that MHC class II express on activated T cells are capable of antigen presentation[5] and can transduce signals into T cells, enhancing T cell proliferation and activity[6].

Known Reactivity Species:
Mouse

Format:
in vivo GOLD™, Purified in vivo Functional Grade

Immunogen:
C57BL/6 Spleen Cells

Formulation

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Purity
≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin
< 1.0 EU/mg as determined by the LAL method

Storage and Stability
Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Product Preparation
Functional grade preclinical antibodies are manufactured in an animal free facility using *in vitro* cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Applications
Applications and Recommended Usage (Quality Tested By Leinco):

FC The suggested concentration for this Clone M5/114.15.2 antibody for staining cells in flow cytometry is ≤ 0.25 µg per 10^6 cells in a volume of 100 µl. Titration of the reagent is recommended for optimal performance for each application.

Other Applications Reported in Literature:

IHC FF
B
IP

Country of Origin
USA

References
1. Holling TM, et al. (2004) Hum Immunol. 65(4):282-90
2. Mitaksov V & Fremont DH. (2006) J Biol Chem. 281(15):10618-25
3. Wieczorek M, et al. (2017) Front Immunol. 8:292
4. Artyomov MN, et al. (2010) Proc Natl Acad Sci USA. 107(39):16916-16921
5. Barnaba V, et al. (1994) Eur J Immunol. 24(1):71-5
6. Di Rosa F, et al. (1993) Hum Immunol. 38(4):251-60

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