

### Anti-MHC Class II antibody [M5/114] ab139365

★★★★☆ [3 Abreviews](#) [8 References](#)

#### Overview

<b>Product name</b>	Anti-MHC Class II antibody [M5/114]
<b>Description</b>	Rat monoclonal [M5/114] to MHC Class II
<b>Host species</b>	Rat
<b>Specificity</b>	ab139365 reacts with murine MHC class II glycoproteins. It recognizes a shared determinant on I-Ab, I-Ad, I-Aq, and I-Ed, I-Ek alloantigens, but it does not react with I-Af, I-Ak, I-As. ab139365 can inhibit I-A-restricted T cell responses of the H-2b, H-2d, H-2q, H-2u but not H-2f, H-2k, H-2s haplotypes.
<b>Tested applications</b>	<b>Suitable for:</b> IP, WB, Flow Cyt, Blocking, Functional Studies
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse
<b>Immunogen</b>	Tissue, cells or virus corresponding to Mouse MHC Class II. Activated C57BL/6 Mouse spleen cells.
<b>General notes</b>	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Store at -20°C long term.
<b>Storage buffer</b>	pH: 7.40 Constituent: 99% PBS
<b>Purity</b>	PBS is Azide free Protein G purified
<b>Purification notes</b>	Purity is > 95% by SDS-PAGE and 0.2 µm filter sterilized.
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	M5/114

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab139365 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. <b>ab18536</b> - Rat monoclonal IgG2b, is suitable for use as an isotype control with this antibody.
Blocking		Use at an assay dependent concentration. Blocking of T cell proliferative responses.
Functional Studies		Use at an assay dependent concentration.

## Target

### Function

Binds peptides derived from antigens that access the endocytic route of antigen presenting cells (APC) and presents them on the cell surface for recognition by the CD4 T-cells. The peptide binding cleft accommodates peptides of 10-30 residues. The peptides presented by MHC class II molecules are generated mostly by degradation of proteins that access the endocytic route, where they are processed by lysosomal proteases and other hydrolases. Exogenous antigens that have been endocytosed by the APC are thus readily available for presentation via MHC II molecules, and for this reason this antigen presentation pathway is usually referred to as exogenous. As membrane proteins on their way to degradation in lysosomes as part of their normal turn-over are also contained in the endosomal/lysosomal compartments, exogenous antigens must compete with those derived from endogenous components. Autophagy is also a source of endogenous peptides, autophagosomes constitutively fuse with MHC class II loading compartments. In addition to APCs, other cells of the gastrointestinal tract, such as epithelial cells, express MHC class II molecules and CD74 and act as APCs, which is an unusual trait of the GI tract. To produce a MHC class II molecule that presents an antigen, three MHC class II molecules (heterodimers of an alpha and a beta chain) associate with a CD74 trimer in the ER to form a heterononamer. Soon after the entry of this complex into the endosomal/lysosomal system where antigen processing occurs, CD74 undergoes a sequential degradation by various proteases, including CTSS and CTSL, leaving a small fragment termed CLIP (class-II-associated invariant chain peptide). The removal of CLIP is facilitated by HLA-DM via direct binding to the alpha-beta-CLIP complex so that CLIP is released. HLA-DM stabilizes MHC class II molecules until primary high affinity antigenic peptides are bound. The MHC II molecule bound to a peptide is then transported to the cell membrane surface. In B cells, the interaction between HLA-DM and MHC class II molecules is regulated by HLA-DO. Primary dendritic cells (DCs) also express HLA-DO. Lysosomal microenvironment has been implicated in the regulation of antigen loading into MHC II molecules, increased acidification produces increased proteolysis and efficient peptide

loading.

#### **Sequence similarities**

Belongs to the MHC class II family.

Contains 1 Ig-like C1-type (immunoglobulin-like) domain.

#### **Cellular localization**

Cell membrane. Endoplasmic reticulum membrane. Golgi apparatus > trans-Golgi network membrane. Endosome membrane. Lysosome membrane. The MHC class II complex transits through a number of intracellular compartments in the endocytic pathway until it reaches the cell membrane for antigen presentation.

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**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

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