Product datasheet

Anti-MHC Class II antibody ab55152

Overview

Product name: Anti-MHC Class II antibody
Description: Mouse monoclonal to MHC Class II
Host species: Mouse
Tested applications: Suitable for: IHC-P, ICC/IF, WB, Flow Cyt
Species reactivity: Reacts with: Human, Recombinant fragment
Immunogen: Recombinant full length protein corresponding to Human MHC Class II aa 1-258. Database link: P04440

Positive control: This antibody gave a positive result when used in the following formaldehyde fixed cell lines: A431

General notes: This product was changed from ascites to tissue culture supernatant on 13th Feb 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Reproducibility is key to advancing scientific discovery and accelerating scientists’ next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. 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, as well as customer reviews and Q&As.

Properties
**Form**
Liquid

**Storage instructions**
Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

**Storage buffer**
pH: 7.4

**Purity**
Protein A purified

**Clonality**
Monoclonal

**Isotype**
IgG2a

**Light chain type**
kappa

### Applications

Our **Abpromise guarantee** covers the use of ab55152 in the following tested applications.

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>ICC/IF</td>
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<td>Use at an assay dependent concentration.</td>
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</table>
| WB          |           | Use at an assay dependent concentration.  
This antibody has only been tested in WB against the recombinant fragment used as immunogen. We have no data on the detection of endogenous protein. |
| Flow Cyt    |           | Use at an assay dependent concentration.  
(Also see PMID: 18941249) |

**ab170191** - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

### 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 to express HLA-DO. Lysosomal miroenvironment 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**

**Images**
ab55152 staining MHC Class II in Human bowel tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 5% serum for 1 hour at 21°C; antigen retrieval was enzymatic. Samples were incubated with primary antibody (1/50 in milk) for 21 hours at 4°C. A Biotin-conjugated Rabbit anti-mouse polyclonal (1/300) was used as the secondary antibody.

This image was generated using the ascites version of the product.
Immunocytochemistry/ Immunofluorescence - Anti-MHC Class II antibody (ab55152)

ICC/IF image of ab55152 stained A431 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab55152 at 10µg/ml overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti- mouse (ab96879) IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

This image was generated using the ascites version of the product.

Western blot - Anti-MHC Class II antibody (ab55152)

All lanes : Anti-MHC Class II antibody (ab55152)

Lane 1 : MHC Class II transfected 293T cell lysates
Lane 2 : Non-transfected 293T cell lysates

Western blot against tagged recombinant protein immunogen using ab55152 MHC Class II antibody at 1µg/ml. Predicted band size of immunogen is 54 kDa
MHC Class II antibody (ab55152) used in immunohistochemistry at 5μg/ml on formalin fixed and paraffin embedded human lymph node. This image was generated using the ascites version of the product.

Overlay histogram showing Raji cells stained with ab55152 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab55152, 0.5μg/1x10⁶ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1μg/1x10⁶ cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Raji cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions. This image was generated using the ascites version of the product.

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

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