

# MHC class II (10-3.6): sc-53721

## BACKGROUND

Major histocompatibility complex (MHC) molecules, also designated human leukocyte antigen (HLA) molecules, are cell-surface receptors that bind foreign peptides and present them to T lymphocytes. MHC class I molecules consist of two polypeptide chains, an  $\alpha$  or heavy chain, and  $\beta$ -2-Microglobulin, a non-covalently associated protein. Cytotoxic T lymphocytes bind antigenic peptides presented by MHC class I molecules. Antigens that bind to MHC class I molecules are typically 8-10 residues in length and are stabilized in a peptide binding groove. MHC class II molecules are encoded by polymorphic MHC genes and consist of a non-covalent complex of an  $\alpha$  and  $\beta$  chain. Helper T lymphocytes bind antigenic peptides presented by MHC class II molecules. MHC class II molecules bind 13-18 amino acid antigenic peptides. Accumulating in endosomal/lysosomal compartments and on the surface of B cells, HLA-DM and -DO molecules regulate binding of exogenous peptides to class II molecules (HLA-DR) by sustaining a conformation that favors peptide exchange. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes.

## REFERENCES

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## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## CHROMOSOMAL LOCATION

Genetic locus: H2-Ea-ps (mouse) mapping to 17 B1.

## SOURCE

MHC class II (10-3.6) is a mouse monoclonal antibody raised against C3H splenocytes of mouse origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

MHC class II (10-3.6) is recommended for detection of MHC class II of mouse origin by immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Molecular Weight of MHC class II  $\alpha$  chain: 34 kDa.

Molecular Weight of MHC class II  $\beta$  chain: 29 kDa.

## SELECT PRODUCT CITATIONS

- Kuan, E.L., Ivanov, S., Bridenbaugh, E.A., Victora, G., Wang, W., Childs, E.W., Platt, A.M., Jakubzick, C.V., Mason, R.J., Gashev, A.A., Nussenzweig, M., Swartz, M.A., Dustin, M.L., Zawieja, D.C. and Randolph, G.J. 2015. Collecting lymphatic vessel permeability facilitates adipose tissue inflammation and distribution of antigen to lymph node-homing adipose tissue dendritic cells. *J. Immunol.* 194: 5200-5210.
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## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.