



MHC class II I E (C3A3-Do3): sc-59319

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 α or heavy chain and β -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 α and β 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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4. Agger, R., Petersen, M.S., Toldbod, H.E., Holtz, S., Dagnaes-Hansen, F., Johnsen, B.W., Bolund, L. and Hokland, M. 2000. Characterization of murine dendritic cells derived from adherent blood mononuclear cells *in vitro*. *Scand. J. Immunol.* 52: 138-147.
5. Viret, C. and Janeway, C.A. 2000. Functional and phenotypic evidence for presentation of E α 52-68 structurally related self-peptide(s) in I-E α -deficient mice. *J. Immunol.* 164: 4627-4634.
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7. Günther, E. and Walter, L. 2001. The major histocompatibility complex of the rat (*Rattus norvegicus*). *Immunogenetics* 53: 520-542.
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9. Zaliauskiene, L., Kang, S., Sparks, K., Zinn, K.R., Schwiebert, L.M., Weaver, C.T. and Collawn, J.F. 2002. Enhancement of MHC class II-restricted responses by receptor-mediated uptake of peptide antigens. *J. Immunol.* 169: 2337-2345.

SOURCE

MHC class II I E (C3A3-Do3) is a mouse monoclonal antibody raised against MHC class II I E.

PRODUCT

Each vial contains 100 μ g IgG₃ in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 1% stabilizer protein.

APPLICATIONS

MHC class II I E (C3A3-Do3) is recommended for detection of MHC class II I E of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and flow cytometry (1 μ g per 1 x 10⁶ cells).

Molecular Weight of MHC class II I E: 29/34 kDa.

Positive Controls: I-11.15 whole cell lysate: sc-364370 or mouse spleen extract: sc-2391.

SELECT PRODUCT CITATIONS

1. Chaudhuri, S., Bhattacharya, D., Singh, M.K., Moitra, S., Ronsard, L., Ghosh, T.K. and Chaudhuri, S. 2015. Disease relevance of T11TS-induced T-cell signal transduction through the CD2-mediated calcineurin-NFAT pathway: perspectives in glioma immunotherapy. *Mol. Immunol.* 67: 256-264.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.