

H2-I/A (NIMR-4): sc-52548

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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- Van Kaer, L. 2001. Accessory proteins that control the assembly of MHC molecules with peptides. *Immunol. Res.* 23: 205-214.
- Zalianskiene, L., et al. 2002. Enhancement of MHC class II-restricted responses by receptor-mediated uptake of peptide antigens. *J. Immunol.* 169: 2337-2345.

CHROMOSOMAL LOCATION

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

SOURCE

H2-I/A (NIMR-4) is a rat monoclonal antibody raised against B-lymphocytes of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

H2-I/A (NIMR-4) is available conjugated to agarose (sc-52548 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-52548 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-52548 PE), fluorescein (sc-52548 FITC), Alexa Fluor[®] 488 (sc-52548 AF488), Alexa Fluor[®] 546 (sc-52548 AF546), Alexa Fluor[®] 594 (sc-52548 AF594) or Alexa Fluor[®] 647 (sc-52548 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-52548 AF680) or Alexa Fluor[®] 790 (sc-52548 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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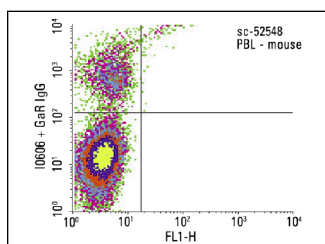
APPLICATIONS

H2-I/A (NIMR-4) is recommended for detection of non-polymorphic I-A-encoded epitope on MHC class II antigens of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

Molecular Weight of MHC class II heavy chain α : 34 kDa.

Molecular Weight of MHC class II light chain β : 29 kDa.

DATA



H2-I/A (NIMR-4): sc-52548. Indirect FCM analysis of mouse peripheral blood leukocytes stained with H2-I/A (NIMR-4), followed by PE-conjugated goat anti-rat IgG: sc-3740. Quadrant markers were set based on the isotype control, normal rat IgG_{2b}: sc-3884.

SELECT PRODUCT CITATIONS

- Brevet, M., et al. 2010. Chronic foot-shock stress potentiates the influx of bone marrow-derived microglia into hippocampus. *J. Neurosci. Res.* 88: 1890-1897.

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.