MHC class Iα (F21-2): sc-52539

SANTA CRUZ®

BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) molecules form an integral part of the immune response system. They are cell-surface receptors that bind peptides and present them to T lymphocytes. Human leukocyte antigens (HLAs) are polymorphic members of the MHC family that are specifically involved in the presentation of antigens to the T cell receptor. There are two classes of HLA antigens: class I (HLA-A, HLA-B and HLA-C) and class II (HLA-D). Class I molecules are expressed in nearly all cells and play a central role in the immune system by presenting peptides derived from the endoplasmic reticulum. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes. HLA-A encodes a membrane anchored heavy chain which hetero-dimerizes with a light chain (β-2-Microglobulin) to form MHC-I. Polymorphisms yield hundreds of HLA-A alleles.

REFERENCES

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2. Collins, K.L. and Baltimore, D. 1999. HIV's evasion of the cellular immune response. Immunol. Rev. 168: 65-74.

3. Dela Cruz, C.S., Tan, R., Rowland-Jones, S.L. and Barber, B.H. 2000. Creating HIV-1 reverse transcriptase cytotoxic T lymphocyte target structures by HLA-A2 heavy chain modifications. Int. Immunol. 9: 1293-1302.

4. Itoh, K., Yamana, H., Shichijo, S. and Yamada, A. 2000. Human tumor-rejection antigens and peptides from genes to clinical research. Nippon. Geka. Gakkai. Zasshi. 9: 612-617.

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CHROMOSOMAL LOCATION

Genetic locus: HLA-A (human) mapping to 6p21.3.

SOURCE

MHC class Iα (F21-2) is a mouse monoclonal antibody raised against white blood cells of avian origin.

PRODUCT

Each vial contains 100 µg IgG$_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

MHC class Iα (F21-2) is recommended for detection of both the native as well as the denatured forms of MHC class Iα of chicken origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight of MHC class Iα: 45 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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