SANTA CRUZ BIOTECHNOLOGY, INC.

MHC class Iα (6F149): sc-71256

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

1. Salomonsen, J., Skjodt, K., Krone, M. and Simonsen, M. 1987. The chicken erythrocyte-specific MHC antigen. Characterization and purification of the B-G antigen by monoclonal antibodies. Immunogenetics 25: 373-382.
2. Dunon, D., Salomonsen, J., Skjodt, K., Kaufman, J. and Imhof, B.A. 1990. Ontogenic appearance of MHC class I (B-F) antigens during chicken embryogenesis. Dev. Immunol. 1: 127-135.
3. Moller, L.B., Kaufman, J., Verland, S., Salomonsen, J., Avila, D., Lambris, J.D. and Skjodt, K. 1991. Variations in the cytoplasmic region account for the heterogeneity of the chicken MHC class I (B-F) molecules. Immunogenetics 34: 110-120.
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5. Collins, K.L. and Baltimore, D. 1999. HIV's evasion of the cellular immune response. Immunol. Rev. 168: 65-74.
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7. Tourdot, S., Scardino, A., Saloustrou, E., Gross, D.A., Pascolo, S., Cordopatis, P., Lemonnier, F.A. and Kosmatopoulos, K. 2000. A general strategy to enhance immunogenicity of low-affinity HLA-A2.1-associated peptides: implication in the identification of cryptic tumor epitopes. Eur. J. Immunol. 12: 3411-3421.
8. De la 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.

SOURCE

MHC class Iα (6F149) is a mouse monoclonal antibody raised against white blood cells of chicken origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MHC class Iα (6F149) is recommended for detection of both the native as well as the denatured forms of MHC class Iα of avian 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.

SELECT PRODUCT CITATIONS

1. Zhang, Z., Yan, C., Li, B. and Li, L. 2018. Potential biological functions of microvesicles derived from adenoid cystic carcinoma. Oncol. Lett. 15: 7900-7908.

STORAGE

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

PROTOCOLS

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