

H2-I-A/I-E (M5/114.15.2): sc-81730

BACKGROUND

Major histocompatibility complex (MHC) molecules, which include human leukocyte antigens (HLAs), form an integral part of the immune response system. They are cell-surface receptors that bind foreign peptides and present them to cytotoxic T lymphocytes (CTLs). The differential structural properties of MHC class I and II molecules account for their respective roles in activating different populations of T lymphocytes. The M5/114 (M5/114.15.2) monoclonal antibody reacts with the mouse MHC class II, both I-A and I-E subregion-encoded glycoproteins (I-A^b, I-A^d, I-A^q, I-E^d and I-E^k; not I-A^f, I-A^k or I-A^s). It detects a polymorphic determinant present on B cells, monocytes, macrophages, dendritic cells and activated T lymphocytes from mice carrying the H-2^b, H-2^d, H-2^q, H-2^p, H-2^r and H-2^u, but not from mice carrying the H-2^s or H-2^f haplotypes. The M5/114 (M5/114.15.2) mAb is reported to inhibit I-A-restricted T cell responses of the H-2^b, H-2^d, H-2^q and H-2^u, but not H-2^f, H-2^k or H-2^s haplotypes.

REFERENCES

1. Bhattacharya, A., Dorf, M.E. and Springer, T.A. 1981. A shared alloantigenic determinant on Ia antigens encoded by the I-A and IE subregions: evidence for I region gene duplication. *J. Immunol.* 127: 2488-2495.
2. Germain, R.N., Bhattacharya, A., Dorf, M.E. and Springer, T.A. 1982. A single monoclonal anti-Ia antibody inhibits antigen-specific T cell proliferation controlled by distinct Ir genes mapping in different H-2 I subregions. *J. Immunol.* 128: 1409-1413.
3. Janeway, C.A., Travers, P., Hunt, S. and Walport, M. 1997. *Immunobiology: The Immune System in Health and Disease*, 3rd Edition. New York: Garland Publishing.
4. Little, A.M. and Parham, P. 1999. Polymorphism and evolution of HLA class I and II genes and molecules. *Rev. Immunogenet.* 1: 105-123.
5. Gunther, E. and Walter, L. 2001. The major histocompatibility complex of the rat (*Rattus norvegicus*). *Immunogenetics* 53: 520-542.
6. Van Kaer, L. 2001. Accessory proteins that control the assembly of MHC molecules with peptides. *Immunol. Res.* 23: 205-214.
7. Fischer, G.F. and Mayr, W.R. 2001. Molecular genetics of the HLA complex. *Wien. Klin. Wochenschr.* 113: 814-824.

CHROMOSOMAL LOCATION

Genetic locus: H2-Ab1 (mouse) mapping to 17 B1.

SOURCE

H2-I-A/I-E (M5/114.15.2) is a rat monoclonal antibody raised against activated C57BL/6 mouse spleen cells.

PRODUCT

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

H2-I-A/I-E (M5/114.15.2) is available conjugated to either phycoerythrin (sc-81730 PE) or fluorescein (sc-81730 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

H2-I-A/I-E (M5/114.15.2) is recommended for detection of I-A^b, I-A^d, I-A^q, I-E^d and I-E^k MHC class II alloantigens of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells); non cross-reactive with I-A^f, I-A^k or I-A^s; detects a polymorphic determinant present on B cells, monocytes, macrophages, dendritic cells and activated T lymphocytes from mice carrying the H-2^b, H-2^d, H-2^q, H-2^p, H-2^r and H-2^u, but not mice carrying the H-2^s or H-2^f haplotypes.

Molecular Weight of H2-I-A/I-E: 30 kDa.

SELECT PRODUCT CITATIONS

1. Hakrrouch, S., Moeller, M., Theilig, F., Kaissling, B., Sijmonsma, T.P., Jugold, M., Akeson, A.L., Traykova-Brauch, M., Hosser, H., Hähnel, B., Gröne, H.J., Koesters, R. and Kriz, W. 2009. Effects of increased renal tubular vascular endothelial growth factor (VEGF) on fibrosis, cyst formation, and glomerular disease. *Am. J. Pathol.* 175: 1883-1895.

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.