



RT1-A (3H2655): sc-71972

BACKGROUND

RT1-A refers to the rat class I major histocompatibility (MHC I) molecules. RT1-A molecules, which consist of class Ia and class Ib molecules, are integral parts of the immune response and present nonself peptides on the cell surface for recognition by cytotoxic T-lymphocytes (CTLs). They are composed 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 RT1-A molecules. Antigens that bind to RT1-A molecules are typically 8-10 residues in length and are stabilized in a peptide binding groove.

REFERENCES

1. Fukumoto, T., McMaster, W.R. and Williams, A.F. 1982. Mouse monoclonal antibodies against rat major histocompatibility antigens. Two Ia antigens and expression of Ia and class I antigens in rat thymus. *Eur. J. Immunol.* 12: 237-243.
2. Forbes, R.D., Lowry, R.P., Darden, A.G., Gomersall, M. and Marghesco, D.M. 1988. Morphologic studies of acute rat cardiac allograft rejection across an isolated major histocompatibility complex class I (RT1-A) disparity. *Transplantation* 45: 943-948.
3. Innes, A., Power, D.A., Cunningham, C., Dillon, D. and Catto, G.R. 1988. The alloantibody response to semiallogeneic pregnancy in the rat. I. Alloantibodies in sera and placental eluates directed to RT1-A antigens. *Transplantation* 46: 409-413.
4. Power, D.A., Cunningham, C., Stewart, K.N., Jones, M.C. and Catto, G.R. 1988. The alloantibody response to semiallogeneic pregnancy in the rat. II. Antibodies in serum directed to multiple epitopes on conventional RT1-A antigens. *Transplantation* 46: 413-418.
5. Propper, D.J., Woo, J., Stewart, K.N., Catto, G.R. and Power, D.A. 1991. Immune responses to noninherited maternal RT1-A antigens in inbred rats. *Transplantation* 52: 331-335.
6. Pockley, A.G., Reid, S.D. and Bowles, M.J. 1995. An enzyme immunoassay for rat soluble MHC class I molecules (RT1-A) and the release of soluble class I from mitogenically stimulated mononuclear cells. *Immunol. Invest.* 24: 679-687.
7. Collins, K.L. and Baltimore, D. 1999. HIV's evasion of the cellular immune response. *Immunol. Rev.* 168: 65-74.
8. Speir, J.A., Stevens, J., Joly, E., Butcher, G.W. and Wilson, I.A. 2001. Two different, highly exposed, bulged structures for an unusually long peptide bound to rat MHC class I RT1-Aa. *Immunity* 14: 81-92.
9. Holmberg, J., Tuncel, J., Yamada, H., Lu, S., Olofsson, P. and Holmdahl, R. 2006. Pristane, a non-antigenic adjuvant, induces MHC class II-restricted, arthritogenic T cells in the rat. *J. Immunol.* 176: 1172-1179.

SOURCE

RT1-A (3H2655) is a mouse monoclonal antibody raised against full length spleen cell glycoprotein RT1A (class I monomorphic) of rat origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RT1-A (3H2655) is available conjugated to either phycoerythrin (sc-71972 PE) or fluorescein (sc-71972 FITC), 200 μ g/ml, for IF, IHC(P) and FCM.

APPLICATIONS

RT1-A (3H2655) is recommended for detection of RT1-A of mouse and rat origin by immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1×10^6 cells).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

1. Fudge, N.J. and Mearow, K.M. 2013. Extracellular matrix-associated gene expression in adult sensory neuron populations cultured on a laminin substrate. *BMC Neurosci.* 14: 15.

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.