

RT1-A (3H2691): sc-71971

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. 1996. 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 (3H2691) is a rat monoclonal antibody raised against AO lymphoid cells of rat origin.

RESEARCH USE

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

PRODUCT

Each vial contains 5 ml culture supernatant containing IgG_{2a} with < 0.1% sodium azide.

APPLICATIONS

RT1-A (3H2691) is recommended for detection of RT1-A of mouse and rat origin by flow cytometry (10-20 μ l per 1×10^6 cells).

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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