SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DRα (G-7): sc-55593

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Major histocompatibility complex (MHC) class II molecules destined for presentation to $CD4^+$ helper T cells is determined by two key events. These events include the dissociation of class II-associated invariant chain peptides (CLIP) from an antigen binding groove in MHC II-α/β dimers through the activity of MHC molecules HLA-DM and -DO, and subsequent peptide antigen binding. Accumulating in endosomal/lysosomal compartments and on the surface of B cells, HLA-DM, -DO molecules regulate the dissociation of CLIP and the subsequent binding of exogenous peptides to HLA class II molecules (HLA-DR, -DQ and -DP) by sustaining a conformation that favors peptide exchange. RFLP analysis of HLA-DM genes from rheumatoid arthritis (RA) patients suggests that certain polymorphisms are genetic factors for RA susceptibility. HLA-B belongs to the HLA class I heavy chain paralogs. Class I molecules play a central role in the immune system by presenting peptides derived from the endoplasmic reticulum lumen. HLA-B and -C can form heterodimers consisting of a membrane-anchored heavy chain and a light chain (β-2-Microglobulin). Polymorphisms yield hundreds of HLA-B and -C alleles.

REFERENCES

1. Horejsi, V., et al. 1986. Characterization of seven new monoclonal antibodies against human DR, DR + DP and DQ1 + DQ3 antigens. Tissue Antigens 28: 288-297.
2. Horejsi, V., et al. 1986. Monoclonal antibodies against human leucocyte antigens. I. Antibodies against β-2-Microglobulin, immunoglobulin κ light chains, HLA-DR-like antigens, T8 antigen, T1 antigen, a monocyte antigen, and a pan-leucocyte antigen. Folia Biol. 32: 12-25.

CHROMOSOMAL LOCATION

Genetic locus: HLA-DRA (human) mapping to 6p21.32; H2-Ea-ps (mouse) mapping to 17 B1.

SOURCE

HLA-DRα (G-7) is a mouse monoclonal antibody raised against amino acids 1-254 representing full length HLA-DRα of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HLA-DRα (G-7) is available conjugated to agarose (sc-55593 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-55593 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55593 PE), fluorescein (sc-55593 FITC), Alexa Fluor® 488 (sc-55593 AF488), Alexa Fluor® 546 (sc-55593 AF546), Alexa Fluor® 594 (sc-55593 AF594) or Alexa Fluor® 647 (sc-55593 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55593 AF680) or Alexa Fluor® 790 (sc-55593 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

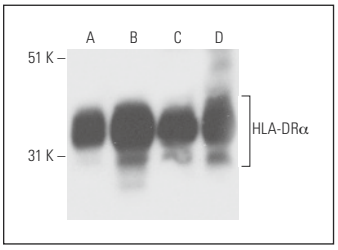
HLA-DRα (G-7) is recommended for detection of HLA-DRα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:200-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HLA-DRα siRNA (h): sc-37113, HLA-DRα siRNA (m): sc-37114, HLA-DRα shRNA Plasmid (h): sc-37113-SH, HLA-DRα shRNA Plasmid (m): sc-37114-SH, HLA-DRα shRNA (h) Lentiviral Particles: sc-37113-V and HLA-DRα shRNA (m) Lentiviral Particles: sc-37114-V.

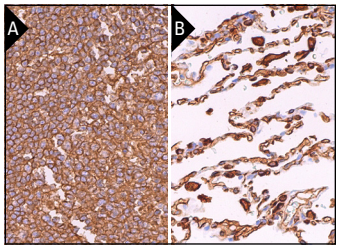
Molecular Weight of HLA-DRα: 34 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Raji whole cell lysate: sc-364236 or BJAB whole cell lysate: sc-2207.

DATA



HLA-DRα (G-7): sc-55593. Western blot analysis of HLA-DRα expression in Ramos (**A**), Raji (**B**), BJAB (**C**) and IB4 (**D**) whole cell lysates.



HLA-DRα (G-7): sc-55593. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonstil tissue showing membrane and cytoplasmic staining of cells in germinal center and cells in non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonstil tissue showing membrane and cytoplasmic staining of Pneumocytes and Macrophages (**B**).

SELECT PRODUCT CITATIONS

1. Li, D., et al. 2009. Down-regulation of MHC class II expression through inhibition of CIITA transcription by lytic transactivator Zta during Epstein-Barr virus reactivation. J. Immunol. 182: 1799-1809.
2. Inoue, A., et al. 2022. TRIM22 negatively regulates MHC-II expression. Biochim. Biophys. Acta Mol. Cell Res. 1869: 119318.
3. Mukherjee, S., et al. 2023. Macrophage differentiation is marked by increased abundance of the mRNA 3' end processing machinery, altered poly(A) site usage, and sensitivity to the level of CstF64. Front. Immunol. 14: 1091403.

STORAGE

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