

HLA-DP/DR/DQ (PdV5.2): sc-130013

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). MHC class I molecules consist of two polypeptide chains, an α or heavy chain and a non-covalently associated protein, β -2-Microglobulin. MHC class II molecules consist of a non-covalent complex of an α and β chain. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes. HLAs are polymorphic proteins that are 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-DP, -DR and -DQ).

REFERENCES

1. Charron, D.J. and McDevitt, H.O. 1979. Analysis of HLA-D region-associated molecules with monoclonal antibody. *Proc. Natl. Acad. Sci. USA* 76: 6567-6571.
2. Owerbach, D., et al. 1983. HLA-D region β -chain DNA endonuclease fragments differ between HLA-DR identical healthy and Insulin-dependent diabetic individuals. *Nature* 303: 815-817.
3. Nepom, G.T. and Erlich, H. 1991. MHC class-II molecules and autoimmunity. *Annu. Rev. Immunol.* 9: 493-525.
4. Cresswell, P. 1994. Assembly, transport and function of MHC class II molecules. *Annu. Rev. Immunol.* 12: 259-293.
5. Cresswell, P. 1996. Invariant chain structure and MHC class II function. *Cell* 84: 505-507.

CHROMOSOMAL LOCATION

Genetic locus: HLA-DQA1 (human) mapping to 6p21.32.

SOURCE

HLA-DP/DR/DQ (PdV5.2) is a mouse monoclonal antibody raised against HLA-DP of human 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. Also available azide-free for blocking of HLA-class II alloresponses, sc-130013 L, 200 μ g/0.1 ml.

HLA-DP/DR/DQ (PdV5.2) is available conjugated to agarose (sc-130013 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-130013 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-130013 PE), fluorescein (sc-130013 FITC), Alexa Fluor[®] 488 (sc-130013 AF488), Alexa Fluor[®] 546 (sc-130013 AF546), Alexa Fluor[®] 594 (sc-130013 AF594) or Alexa Fluor[®] 647 (sc-130013 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-130013 AF680) or Alexa Fluor[®] 790 (sc-130013 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

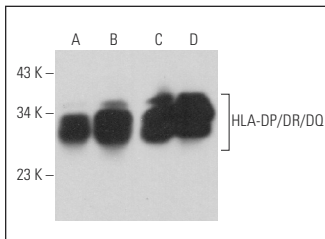
HLA-DP/DR/DQ (PdV5.2) is recommended for detection of HLA-DP, HLA-DR and HLA-DQ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and functional assay.

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

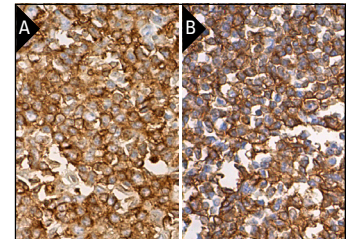
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HLA-DP/DR/DQ (PdV5.2): sc-130013. Western blot analysis of HLA-DP/DR/DQ expression in BJAB (A), Raji (B), Ramos (C) and GA-10 (D) whole cell lysates.



HLA-DP/DR/DQ (PdV5.2): sc-130013. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane and cytoplasmic staining of cells in germinal center (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing membrane and cytoplasmic staining of cells in germinal center and cells in non-germinal center (B).

SELECT PRODUCT CITATIONS

1. Pandya, J.M., et al. 2016. CD4⁺ and CD8⁺ CD28^{null} T cells are cytotoxic to autologous muscle cells in patients with polymyositis. *Arthritis Rheumatol.* 68: 2016-2026.

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.