SANTA CRUZ BIOTECHNOLOGY, INC.

# HLA-DR (Bra22): sc-33718

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 $\alpha/\beta$ 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 ($\beta$-2-Microglobulin). Polymorphisms yield hundreds of HLA-B and -C alleles.

## SOURCE

HLA-DR (Bra22) is a mouse monoclonal antibody raised against cells Reh-6 (non-T, non-B leukemia cell line).

## 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-DR (Bra22) is available conjugated to agarose (sc-33718 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-33718 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33718 PE), fluorescein (sc-33718 FITC), Alexa Fluor® 488 (sc-33718 AF488), Alexa Fluor® 546 (sc-33718 AF546), Alexa Fluor® 594 (sc-33718 AF594) or Alexa Fluor® 647 (sc-33718 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33718 AF680) or Alexa Fluor® 790 (sc-33718 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

HLA-DR (Bra22) is recommended for detection of HLA-DR and HLA-DP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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 flow cytometry (1 µg per 1 x $10^6$ cells).

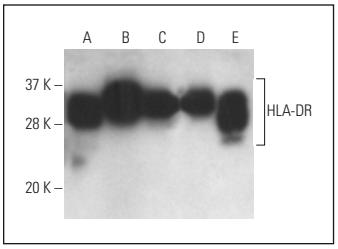
Molecular Weight of HLA-DR mature chain: 30 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, NAMALWA cell lysate: sc-2234 or HuT 78 whole cell lysate: sc-2208.

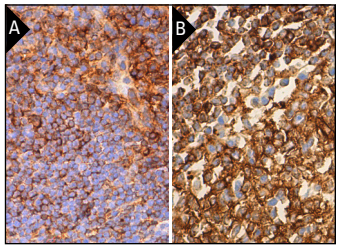
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA




HLA-DR (Bra22): sc-33718. Western blot analysis of HLA-DR expression in Raji (**A**), Daudi (**B**), U-698-M (**C**), NAMALWA (**D**) and HuT 78 (**E**) whole cell lysates.




HLA-DR (Bra22): sc-33718. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lymph node tissue showing membrane and cytoplasmic staining of cells in a non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane and cytoplasmic staining of cells in germinal center and cells in non-germinal center (**B**).

## SELECT PRODUCT CITATIONS


1. Romieu-Mourez, R., et al. 2007. Regulation of MHC class II expression and antigen processing in murine and human mesenchymal stromal cells by IFN-γ, TGFβ, and cell density. J. Immunol. 179: 1549-1558.
2. Naujokat, C., et al. 2007. Proteasomal chymotrypsin-like peptidase activity is required for essential functions of human monocyte-derived dendritic cells. Immunology 120: 120-132.
3. Lin, R., et al. 2016. Altered function of monocytes/macrophages in patients with autoimmune hepatitis. Mol. Med. Rep. 13: 3874-3880.
4. Granato, M., et al. 2017. Quercetin induces apoptosis and autophagy in primary effusion lymphoma cells by inhibiting PI3K/AKT/mTOR and Stat3 signaling pathways. J. Nutr. Biochem. 41: 124-136.
5. Gilardini Montani, M.S., et al. 2018. EBV reduces autophagy, intracellular ROS and mitochondria to impair monocyte survival and differentiation. Autophagy 1-16.
6. Li, M., et al. 2018. Genetically-modified bone mesenchymal stem cells with TGF-β3 improve wound healing and reduce scar tissue formation in a rabbit model. Exp. Cell Res. 367: 24-29.


## RESEARCH USE

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