SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DR (L243): sc-18875

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.

SOURCE

HLA-DR (L243) is a mouse monoclonal antibody raised against human B lymphocytes.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HLA-DR (L243) is available conjugated to agarose (sc-18875 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-18875 PE), fluorescein (sc-18875 FITC), Alexa Fluor® 488 (sc-18875 AF488), Alexa Fluor® 546 (sc-18875 AF546), Alexa Fluor® 594 (sc-18875 AF594) or Alexa Fluor® 647 (sc-18875 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-18875 AF680) or Alexa Fluor® 790 (sc-18875 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, HLA-DR (L243) is available conjugated to APC (sc-18875 APC), 100 tests in 2 ml, for IF, IHC(P) and FCM.

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

APPLICATIONS

HLA-DR (L243) is recommended for detection of a nonpolymorphic HLA-DR epitope 1-3 of human origin by 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); not cross-reactive with HLA-DQ or HLA-DP molecules.

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

Positive Controls: U-698-M whole cell lysate: sc-364799, BJAB whole cell lysate: sc-2207 or Daudi cell lysate: sc-2415.

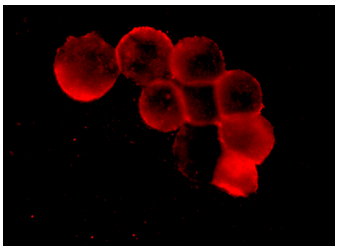
RESEARCH USE

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

STORAGE

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

DATA



HLA-DR (L243): sc-18875. Immunofluorescence staining of methanol-fixed NAMALWA cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Holling, T.M., et al. 2004. Epigenetic control of CIITA expression in leukemic T cells. Biochem. Pharmacol. 68: 1209-1213.
2. Jenkins, C., et al. 2008. Immunomodulatory properties of a viral homolog of human interleukin-10 expressed by human cytomegalovirus during the latent phase of infection. J. Virol. 82: 3736-3750.
3. McNally, A.K. and Anderson, J.M. 2011. Foreign body-type multinucleated giant cells induced by interleukin-4 express select lymphocyte co-stimulatory molecules and are phenotypically distinct from osteoclasts and dendritic cells. Exp. Mol. Pathol. 91: 673-681.
4. Papadimitriou, L., et al. 2013. $DO\alpha^-\beta^+$ expression in favor of HLA-DR engagement in exosomes. Immunobiology 218: 1019-1025.
5. Hossain, F., et al. 2015. Inhibition of fatty acid oxidation modulates immunosuppressive functions of myeloid-derived suppressor cells and enhances cancer therapies. Cancer Immunol. Res. 3: 1236-1247.
6. Georgouli, M., et al. 2016. Expression of MIF and CD74 in leukemic cell lines: correlation to DR expression destiny. Biol. Chem. 397: 519-528.
7. Tomasello, L., et al. 2017. Mesenchymal stem cells derived from inflamed dental pulpal and gingival tissue: a potential application for bone formation. Stem Cell Res. Ther. 8: 179.
8. Stocco, E., et al. 2019. Infrapatellar fat pad stem cells responsiveness to microenvironment in osteoarthritis: from morphology to function. Front. Cell Dev. Biol. 7: 323.
9. Grabowska, K., et al. 2020. α herpesvirus γB homologs are targeted to extracellular vesicles, but they differentially affect MHC class II molecules. Viruses 12: 429.

PROTOCOLS

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