

CDw78 (DF1588): sc-66182

BACKGROUND

Protein recognition at the interface of a T cell and an antigen-presenting cell (APC) is a key factor in T cell activation. MHC class II molecules (MHC-II) are heterodimeric proteins involved with antigen presentation to CD4⁺ T cells. Human CDw78 is a cell surface molecule found on mature and immature B cells that may define a conformation of MHC-II bound to peptides that are obtained through trafficking to lysosomal antigen-processing compartments. Expression of CDw78 requires coexpression of MHC-II as well as its chaperone chain. Antibodies recognizing CDw78 may be useful research tools in targeting aggregated fractions of MHC-II which are very important in signaling and antigen-presenting properties. CDw78 is expressed in some acute lymphoblastic leukemias, B cell lymphomas and a few acute nonlymphocytic leukemias.

REFERENCES

1. Erkeller-Yuksel, F.M., Deneys, V., Yuksel, B., Hannel, I., Hulstaert, F., Hamilton, C., Mackinnon, H., Stokes, L.T., Munhyeshuli, V. and Vanlangendonck, F. 1992. Age-related changes in human blood lymphocyte subpopulations. *J. Pediatr.* 120: 216-222.
2. Slack, J.L., Armitage, R.J., Ziegler, S.F., Dower, S.K. and Gruss, H.J. 1995. Molecular characterization of the pan-B cell antigen CDw78 as a MHC class II molecule by direct expression cloning of the transcription factor CIITA. *Int. Immunol.* 7: 1087-1092.
3. Rasmussen, A.M., Horejsí, V., Levy, F.O., Blomhoff, H.K., Smeland, E.B., Beiske, K., Michaelsen, T.E., Gaudernack, G. and Funderud, S. 1997. CDw78—a determinant on a major histocompatibility complex class II subpopulation that can be induced to associate with the cytoskeleton. *Eur. J. Immunol.* 27: 3206-3213.
4. Drbal, K., Angelisová, P., Rasmussen, A.M., Hilgert, I., Funderud, S. and Horejsí, V. 1999. The nature of the subset of MHC class II molecules carrying the CDw78 epitopes. *Int. Immunol.* 11: 491-498.
5. Jensen, P.E. 2002. All peptide-MHC complexes are not created equal. *Nat. Immunol.* 3: 14-15.
6. Kropshofer, H., Spindeldreher, S., Röhn, T.A., Platania, N., Grygar, C., Daniel, N., Wölpl, A., Langen, H., Horejsi, V. and Vogt, A.B. 2002. Tetraspan microdomains distinct from lipid rafts enrich select peptide-MHC class II complexes. *Nat. Immunol.* 3: 61-68.
7. Vogt, A.B., Spindeldreher, S. and Kropshofer, H. 2002. Clustering of MHC-peptide complexes prior to their engagement in the immunological synapse: lipid raft and tetraspan microdomains. *Immunol. Rev.* 189: 136-151.
8. Andrae, S., Buisson, S. and Triebel, F. 2003. MHC class II signal transduction in human dendritic cells induced by a natural ligand, the LAG-3 protein (CD223). *Blood* 102: 2130-2137.
9. Poloso, N.J., Denzin, L.K. and Roche, P.A. 2006. CDw78 defines MHC class II-peptide complexes that require Ii chain-dependent lysosomal trafficking, not localization to a specific tetraspanin membrane microdomain. *J. Immunol.* 177: 5451-5458.

SOURCE

CDw78 (DF1588) is a mouse monoclonal antibody raised against leukocytes of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CDw78 (DF1588) is available conjugated to agarose (sc-66182 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-66182 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-66182 PE), fluorescein (sc-66182 FITC), Alexa Fluor[®] 488 (sc-66182 AF488), Alexa Fluor[®] 546 (sc-66182 AF546), Alexa Fluor[®] 594 (sc-66182 AF594) or Alexa Fluor[®] 647 (sc-66182 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-66182 AF680) or Alexa Fluor[®] 790 (sc-66182 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

CDw78 (DF1588) is recommended for detection of CDw78-antigen expressed on human B lymphocytes of human origin by 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) and flow cytometry (1 µg per 1 x 10⁶ cells).

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.

PROTOCOLS

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