SANTA CRUZ BIOTECHNO

CD1B (M-T101): sc-58975

BACKGROUND

The CD1 multigene family encodes five forms of the CD1 T cell surface glycoprotein in human, designated CD1A, 1B, 1C, 1D and 1E. CD1, a type 1 membrane protein, has structural similarity to the MHC class I antigen and has been shown to present lipid antigens for recognition by T lymphocytes. CD1 antigens are associated with β-2-Microglobulin and expressed on cortical thymocytes, Langerhans cells, a B cell subset and some dendritic cells. Specifically, CD1A is a marker for Langerhans cell histiocytosis (LCH) and is found on interdigitating cells. Adaptor-protein complexes and CD1-associated chaperones control CD1 trafficking, and the development and activation of CD1-restricted T cells. Constitutive endocytosis of CD1B molecules and the differential sorting of MHC class II from lysosomes separate peptide- and lipid antigen-presenting molecules during dendritic cell maturation. CD1B is also expressed in interdigitating cells. The human CD1 genes are all closely linked in a cluster mapping at chromosome 1q23.1.

REFERENCES

1. Martin, L.H., et al. 1987. Structure and expression of the human thymocyte antigens CD1A, CD1C, and CD1C. Proc. Natl. Acad. Sci. USA 84: 9189-9193.
2. Aruffo, A. and Seed, B. 1989. Expression of cDNA clones encoding the thymocyte antigens CD1A, B, C demonstrates a hierarchy of exclusion in fibroblasts. J. Immunol. 143: 1723-1730.
3. Longley, J., et al. 1989. Molecular cloning of CD1A (T6), a human epidermal dendritic cell marker related to class I MHC molecules. J. Invest. Dermatol. 92: 628-631.
4. Sotzik, F., et al. 1993. Surface antigens of human thymocyte populations defined by CD3, CD4 and CD8 expression: CD1A is expressed by mature thymocytes but not peripheral T cells. Immunol. Lett. 36: 101-106.
5. Porcelli, S.A. 1995. The CD1 family: a third lineage of antigen-presenting molecules. Adv. Immunol. 59: 1-98.
6. Melian, A., et al. 1996. Antigen presentation by CD1 and MHC-encoded class I-like molecules. Curr. Opin. Immunol. 8: 82-88.
7. Storkus, W.J., et al. 1996. Class I-like CD1A-C do not protect target cells from NK-mediated cytolysis. Cell. Immunol. 167: 154-156.
8. Bauer, A., et al. 1997. Analysis of the requirement for β-2-Microglobulin for expression and formation of human CD1 antigens. Eur. J. Immunol. 27: 1366-1373.

CHROMOSOMAL LOCATION

Genetic locus: CD1B (human) mapping to 1q23.1.

SOURCE

CD1B (M-T101) is a mouse monoclonal antibody raised against thymocytes of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with 0.09% sodium azide and 1% stabilizer protein.

CD1B (M-T101) is available conjugated to agarose (sc-58975 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-58975 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58975 PE), fluorescein (sc-58975 FITC), Alexa Fluor® 488 (sc-58975 AF488), Alexa Fluor® 546 (sc-58975 AF546), Alexa Fluor® 594 (sc-58975 AF594) or Alexa Fluor® 647 (sc-58975 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-58975 AF680) or Alexa Fluor® 790 (sc-58975 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD1B (M-T101) is recommended for detection of CD1B of human origin by immunoprecipitation [10-20 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:500) and flow cytometry (10-20 µl per 1 x 10^6 cells).

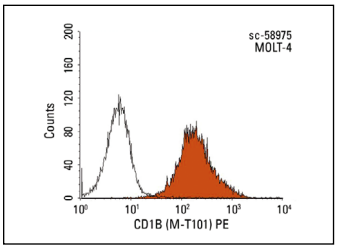
Suitable for use as control antibody for CD1B siRNA (h): sc-42745, CD1B shRNA Plasmid (h): sc-42745-SH and CD1B shRNA (h) Lentiviral Particles: sc-42745-V.

Molecular Weight of CD1B: 45 kDa.

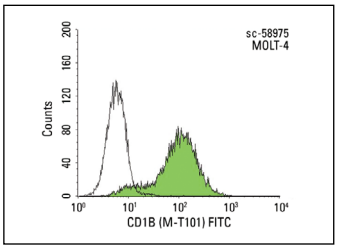
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) 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.

DATA



CD1B (M-T101): sc-58975. Indirect FCM analysis of MOLT-4 cells stained with CD1B (M-T101), followed by PE-conjugated goat anti-mouse IgG_1: sc-3764. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.



CD1B (M-T101): sc-58975. Indirect FCM analysis of MOLT-4 cells stained with CD1B (M-T101), followed by FITC-conjugated goat anti-mouse IgG_1: sc-2078. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.

RESEARCH USE

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