CD1C (M241): sc-53192

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BIOTECHNOLOGY

The Power to Question

BACKGROUND

The CD1 multigene family encodes five forms of the CD1 T-cell surface glyco-protein 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

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3. Longley, J., Kraus, J., Alonso, M. and Edelson, R. 1989. Molecular cloning of CD1a (T6), a human epidermal dendritic cell marker related to class I MHC molecules. J. Invest. Dermatol. 92: 628-631.

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5. Porcelli, S.A. 1995. The CD1 family: a third lineage of antigen-presenting molecules. Adv. Immunol. 59: 1-18.

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8. Bauer, A., Huttinger, R., Staffler, G., Hansmann, C., Schmidt, W., Majdic, O., Knapp, W. and Stockinger, H. 1997. Analysis of the requirement for β-2-Microglobulin for expression and formation of human CD1 antigens. Eur. J. Immunol. 27: 1366-1373.

9. Brigl, M. and Brenner M.B. 2004. CD1: antigen presentation and T cell function. Annu. Rev. Immunol. 22: 817-890.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: CD1C (human) mapping to 1q23.1.

SOURCE

CD1C (M241) is a mouse monoclonal antibody raised against MOLT 4 cell line of human origin.

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.

APPLICATIONS

CD1C (M241) is recommended for detection of CD1C of human origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for CD1C siRNA (h): sc-42746, CD1C shRNA Plasmid (h): sc-42746-SH and CD1C shRNA (h) Lentiviral Particles: sc-42746-V.

Molecular Weight of CD1C: 43 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).

SELECT PRODUCT CITATIONS

1. Wen, Q., Zhou, C., Xiong, W., Su, J., He, J., Zhang, S., Du, X., Liu, S., Wang, J. and Ma, L. 2016. MiR-381-3p regulates the antigen-presenting capability of dendritic cells and represses antituberculosis cellular immune responses by targeting CD1C. J. Immunol. 197: 580-589.

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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.