SANTA CRUZ BIOTECHNOLOGY, INC.

CD1C (L161): sc-18886

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, CD1b, 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.

CHROMOSOMAL LOCATION

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

SOURCE

CD1C (L161) is a mouse monoclonal antibody raised against thymus cells.

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.

CD1C (L161) is available conjugated to either phycoerythrin (sc-18886 PE) or fluorescein (sc-18886 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

CD1C (L161) 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

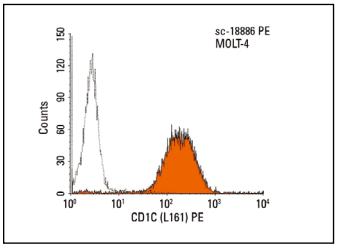
Suitable for use as control antibody for CD1C siRNA (h): sc-42746, CD1C shRNA Plasmid (h): sc-42746-SH and CD1C shRNA (h) Lentiviral Particles: sc-42746-V.

Molecular Weight of CD1C: 43 kDa.

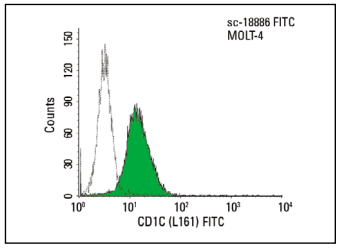
RECOMMENDED SUPPORT REAGENTS

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). 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



CD1C (L161) PE: sc-18886 PE. FCM analysis of MOLT-4 cells. Black line histogram represents the isotype control, normal mouse IgG_1-PE: sc-2866.



CD1C (L161) FITC: sc-18886 FITC. FCM analysis of MOLT-4 cells. Black line histogram represents the isotype control, normal mouse IgG_1-FITC: sc-2855.

SELECT PRODUCT CITATIONS

1. Paepe, B.D., et al. 2012. Heat shock protein families 70 and 90 in Duchenne muscular dystrophy and inflammatory myopathy: balancing muscle protection and destruction. Neuromuscul. Disord. 22: 26-33.
2. De Paepe, B., et al. 2012. Upregulation of chemokines and their receptors in duchenne muscular dystrophy: potential for attenuation of myofiber necrosis. Muscle Nerve 46: 917-925.
3. Lepore, M., et al. 2014. A novel self-lipid antigen targets human T cells against CD1c+ leukemias. J. Exp. Med. 211: 1363-1377.
4. Consonni, M., et al. 2021. Human T cells engineered with a leukemia lipid-specific TCR enables donor-unrestricted recognition of CD1C-expressing leukemia. Nat. Commun. 12: 4844.

RESEARCH USE

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