

CD1D (C-9): sc-271950

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. Adaptor protein complexes and CD1-associated chaperones control CD1 trafficking and the development and activation of CD1-restricted T cells. CD1D is present on human intestinal epithelial cells (IEC) and exists as a β -2-Microglobulin-independent nonglycosylated form or a β -2-Microglobulin-dependent glycosylated form. The human CD1D gene maps to chromosome 1q23.1 and encodes a 335 amino acid protein that influences normal T cell maturation.

REFERENCES

1. Balk, S.P., et al. 1989. Isolation and characterization of a cDNA and gene coding for a fourth CD1 molecule. *Proc. Natl. Acad. Sci. USA* 86: 252-256.
2. Calabi, F., et al. 1989. Two classes of CD1 genes. *Eur. J. Immunol.* 19: 285-292.
3. Bilsland, C.A., et al. 1991. The identification of the β -2-Microglobulin binding antigen encoded by the human CD1D gene. *Eur. J. Immunol.* 21: 71-78.
4. Balk, S.P., et al. 1994. β -2-Microglobulin-independent MHC class Ib molecule expressed by human intestinal epithelium. *Science* 265: 259-262.
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. 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.
8. Kim, H.S., et al. 2000. Human CD1D associates with prolyl-4-hydroxylase during its biosynthesis. *Mol. Immunol.* 37: 861-868.
9. Joyce, S. 2001. CD1D and natural T cells: how their properties jump-start the immune system. *Cell. Mol. Life Sci.* 58: 442-469.

CHROMOSOMAL LOCATION

Genetic locus: CD1D (human) mapping to 1q23.1.

SOURCE

CD1D (C-9) is a mouse monoclonal antibody raised against amino acids 71-140 mapping near the N-terminus of CD1D of human origin.

PRODUCT

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

APPLICATIONS

CD1D (C-9) is recommended for detection of CD1D of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD1D siRNA (h): sc-42747, CD1D shRNA Plasmid (h): sc-42747-SH and CD1D shRNA (h) Lentiviral Particles: sc-42747-V.

Molecular Weight of CD1D: 37 kDa.

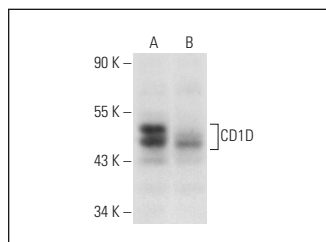
Molecular Weight of glycosylated CD1D: 50-55 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, CCRF-CEM cell lysate: sc-2225 or CD1D (h): 293T Lysate: sc-114220.

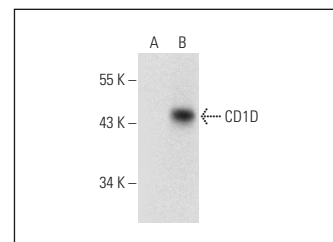
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



CD1D (C-9): sc-271950. Western blot analysis of CD1D expression in Jurkat (A) and CCRF-CEM (B) whole cell lysates.



CD1D (C-9): sc-271950. Western blot analysis of CD1D expression in non-transfected: sc-117752 (A) and human CD1D transfected: sc-114220 (B) 293T whole cell lysates.

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.