SANTA CRUZ BIOTECHNOLOGY, INC.

CD1D (h): 293T Lysate: sc-114220

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., Bleicher, P.A. and Terhorst, C. 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., Jarvis, J.M., Martin, L. and Milstein, C. 1989. Two classes of CD1 genes. Eur. J. Immunol. 19: 285-292.
3. Bilsland, C.A. and Milstein, C. 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., Burke, S., Polischuk, J.E., Frantz, M.E., Yang, L., Porcelli, S., Colgan, S.P. and Blumberg, R.S. 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: 1-18.
6. Melian, A., Beckman, E.M., Porcelli, S.A. and Brenner, M.B. 1996. Antigen presentation by CD1 and MHC-encoded class I-like molecules. Curr. Opin. Immunol. 8: 82-88.
7. 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.
8. Kim, H.S., Colgan, S.P., Pitman, R., Hershberg, R.M. and Blumberg, R.S. 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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

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

PRODUCT

CD1D (h): 293T Lysate represents a lysate of human CD1D transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CD1D (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CD1D antibodies. Recommended use: 10-20 µl per lane.

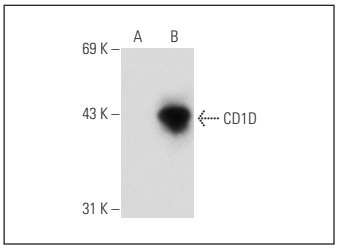
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CD1D (G-10): sc-271340 is recommended as a positive control antibody for Western Blot analysis of enhanced human CD1D expression in CD1D transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

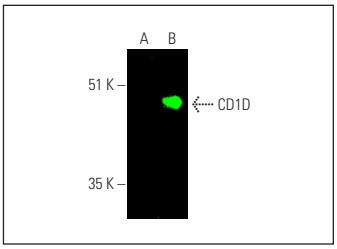
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.

DATA



CD1D (G-10): sc-271340. Western blot analysis of CD1D expression in non-transfected: sc-117752 (**A**) and human CD1D transfected: sc-114220 (**B**) 293T whole cell lysates.



CD1D (C3D5): sc-19632. Near-infrared western blot analysis of CD1D expression in non-transfected: sc-117752 (**A**) and human CD1D transfected: sc-114220 (**B**) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

RESEARCH USE

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