

CD1D (G-12): sc-373858



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. 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. Bilslund, 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., et al. 1994. β -2-Microglobulin-independent MHC class Ib molecule expressed by human intestinal epithelium. *Science* 265: 259-262.

CHROMOSOMAL LOCATION

Genetic locus: Cd1d2 (mouse) mapping to 3 F1.

SOURCE

CD1D (G-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 115-151 within an internal region of CD1D of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD1D (G-12) is available conjugated to agarose (sc-373858 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373858 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373858 PE), fluorescein (sc-373858 FITC), Alexa Fluor[®] 488 (sc-373858 AF488), Alexa Fluor[®] 546 (sc-373858 AF546), Alexa Fluor[®] 594 (sc-373858 AF594) or Alexa Fluor[®] 647 (sc-373858 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-373858 AF680) or Alexa Fluor[®] 790 (sc-373858 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373858 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

CD1D (G-12) is recommended for detection of CD1D of mouse, rat and mink 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 CD1 siRNA (m): sc-42743, CD1 shRNA Plasmid (m): sc-42743-SH and CD1 shRNA (m) Lentiviral Particles: sc-42743-V.

Molecular Weight of CD1D: 37 kDa.

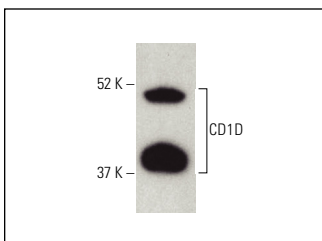
Molecular Weight of glycosylated CD1D: 50-55 kDa.

Positive Controls: Mv 1 Lu cell lysate: sc-3810.

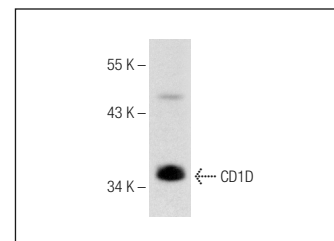
RECOMMENDED SUPPORT REAGENTS

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 (G-12) HRP: sc-373858 HRP. Direct western blot analysis of CD1D expression in Mv 1 Lu whole cell lysate.



CD1D (G-12): sc-373858. Western blot analysis of CD1D expression in Mv 1 Lu whole cell lysate.

SELECT PRODUCT CITATIONS

1. Xiao, R., et al. 2022. Adipocyte CD1d gene transfer induces T cell expansion and adipocyte inflammation in CD1d knockout mice. *J. Immunol.* 208: 2109-2121.

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.