SANTA CRUZ BIOTECHNOLOGY, INC.

CD1D (C3D5): sc-19632

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.

CHROMOSOMAL LOCATION

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

SOURCE

CD1D (C3D5) is a mouse monoclonal antibody raised against the α 1 domain of CD1D fusion protein of human origin.

PRODUCT

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

CD1D (C3D5) is available conjugated to agarose (sc-19632 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-19632 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19632 PE), fluorescein (sc-19632 FITC), Alexa Fluor® 488 (sc-19632 AF488), Alexa Fluor® 546 (sc-19632 AF546), Alexa Fluor® 594 (sc-19632 AF594) or Alexa Fluor® 647 (sc-19632 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19632 AF680) or Alexa Fluor® 790 (sc-19632 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD1D (C3D5) is recommended for detection of an epitope in the α 1 domain of CD1D of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

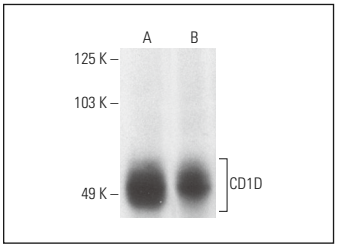
Molecular Weight of glycosylated CD1D: 50-55 kDa.

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

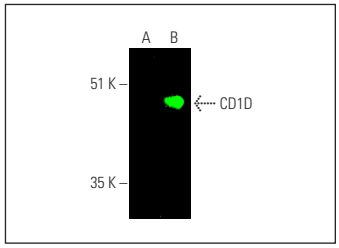
STORAGE

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

DATA



CD1D (C3D5): sc-19632. Western blot analysis of CD1D expression in CCRF-CEM (**A**) and Jurkat (**B**) 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.

SELECT PRODUCT CITATIONS

1. Bobryshev, Y.V. and Lord, R.S. 2005. Co-accumulation of dendritic cells and natural killer T cells within rupture-prone regions in human atherosclerotic plaques. J. Histochem. Cytochem. 53: 781-785.
2. Chen, Q. and Ross, A.C. 2007. Retinoic acid regulates CD1D gene expression at the transcriptional level in human and rodent monocytic cells. Exp. Biol. Med. 232: 488-494.
3. Liu, J., et al. 2010. A threonine-based targeting signal in the human CD1D cytoplasmic tail controls its functional expression. J. Immunol. 184: 4973-4981.
4. Yang, P.M., et al. 2012. CD1D induction in solid tumor cells by histone deacetylase inhibitors through inhibition of HDAC1/2 and activation of Sp1. Epigenetics 7: 390-399.
5. Han, J., et al. 2013. Human cytomegalovirus (HCMV) US2 protein interacts with human CD1D (hCD1d) and down-regulates invariant NKT (iNKT) cell activity. Mol. Cells 36: 455-464.
6. Chen, Q. and Ross, A.C. 2015. All-*trans*-retinoic acid and CD38 ligation differentially regulate CD1D expression and α-galactosylceramide-induced immune responses. Immunobiology 220: 32-41.
7. Liu, J., et al. 2016. A VP22-Null HSV-1 is impaired in inhibiting CD1D-mediated antigen presentation. Viral Immunol. 29: 409-416.
8. Mantaka, P., et al. 2017. Folliculotropic mycosis fungoides with skewed T-cell receptor CDR3 motif: suggestive of lipid-antigen aelection? Acta Derm. Venereol. 97: 1081-1086.
9. de Mingo Pulido, Á., et al. 2018. Differential role of cathepsins S and B in hepatic APC-mediated NKT cell activation and cytokine secretion. Front. Immunol. 9: 391.

RESEARCH USE

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