SANTA CRUZ BIOTECHNOLOGY, INC.

CD1A (CTB6): sc-5265

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.

CHROMOSOMAL LOCATION

Genetic locus: CD1A (human) mapping to 1q23.1.

SOURCE

CD1A (CTB6) is a mouse monoclonal antibody raised against full length CD1A of human origin.

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.

CD1A (CTB6) is available conjugated to agarose (sc-5265 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5265 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5265 PE), fluorescein (sc-5265 FITC), Alexa Fluor® 488 (sc-5265 AF488), Alexa Fluor® 546 (sc-5265 AF546), Alexa Fluor® 594 (sc-5265 AF594) or Alexa Fluor® 647 (sc-5265 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5265 AF680) or Alexa Fluor® 790 (sc-5265 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD1A (CTB6) is recommended for detection of CD1A of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD1A siRNA (h): sc-42744, CD1A shRNA Plasmid (h): sc-42744-SH and CD1A shRNA (h) Lentiviral Particles: sc-42744-V.

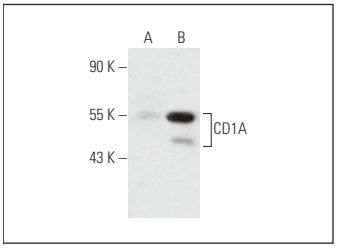
Molecular Weight of CD1A: 49 kDa.

Positive Controls: CD1A (h2): 293T Lysate: sc-171320 or MOLT-4 cell lysate: sc-2233.

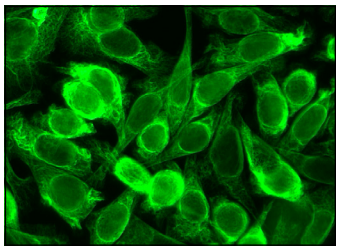
STORAGE

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

DATA



CD1A (CTB6): sc-5265. Western blot analysis of CD1A expression in non-transfected: sc-117752 (**A**) and human CD1A transfected: sc-171320 (**B**) 293T whole cell lysates.



CD1A (CTB6) Alexa Fluor® 488: sc-5265 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane and cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Broome, A.M. and Eckert, R.L. 2004. Microtubule-dependent redistribution of a cytoplasmic cornified envelope precursor. J. Invest. Dermatol. 122: 29-38.
2. Katoh, N., et al. 2006. Effect of serotonin on the differentiation of human monocytes into dendritic cells. Clin. Exp. Immunol. 146: 354-361.
3. Lourenco, S.V., et al. 2007. Lupus erythematosus: clinical and histopathological study of oral manifestations and immunohistochemical profile of the inflammatory infiltrate. J. Cutan. Pathol. 34: 558-564.
4. Yhee, J.Y., et al. 2008. Immunohistochemical application of an antibody specific for human CD1A to the diagnosis of canine mast cell tumour. J. Comp. Pathol. 139: 40-46.
5. Zuliani, T., et al. 2013. Fetal fibroblasts and keratinocytes with immunosuppressive properties for allogeneic cell-based wound therapy. PLoS ONE 8: e70408.
6. Rodríguez-Arámbula, A., et al. 2015. CD4, IL-17, and COX-2 are associated with subclinical inflammation in malar melasma. Am. J. Dermatopathol. 37: 761-766.
7. Kim, H.S., et al. 2015. Continuous irradiation with a 633-nm light-emitting diode exerts an anti-aging effect on human skin cells. Int. J. Mol. Med. 35: 383-390.
8. Beristain-Covarrubias, N., et al. 2017. Class I-restricted T cell-associated molecule is a marker for IFN-γ-producing iNKT cells in healthy subjects and patients with type 1 diabetes. J. Interferon Cytokine Res. 37: 39-49.
9. Matsuoka, K., et al. 2023. Metabolic rewiring controlled by c-Fos governs cartilage integrity in osteoarthritis. Ann. Rheum. Dis. 82: 1227-1239.

RESEARCH USE

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