SANTA CRUZ BIOTECHNOLOGY, INC.

CD83 (HB15a): sc-19677

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD83 is a heavily glycosylated membrane protein of the immunoglobulin (Ig) superfamily that is expressed in mature dendritic cells, Langerhans cells and interdigitating reticulum cells within lymphoid tissues. Structurally, CD83 resembles other Ig superfamily members, which have an extracellular V-type Ig-like domain, a single transmembrane domain and a 40 residue cytoplasmic tail. CD83 expression is used as a marker for mature, antigen presenting dendritic cells that are capable of generating tumor specific T cell immunity, a phenotype with implications as an anti-cancer vaccine. CD83-IgG_1(fc) chimera studies indicate that CD83 is a sialic acid-binding, Ig-like lectin (Siglec) adhesion molecule that is involved in cell adhesion/signaling by hosting dendritic cell interactions with monocytes and $CD8^+$ T cells.

CHROMOSOMAL LOCATION

Genetic locus: CD83 (human) mapping to 6p23.

SOURCE

CD83 (HB15a) is a mouse monoclonal antibody raised against COS cells transfected with HB15 cDNA.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for activation, sc-19677 L, 200 µg/0.1 ml.

CD83 (HB15a) is available conjugated to agarose (sc-19677 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-19677 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19677 PE), fluorescein (sc-19677 FITC), Alexa Fluor® 488 (sc-19677 AF488), Alexa Fluor® 546 (sc-19677 AF546), Alexa Fluor® 594 (sc-19677 AF594) or Alexa Fluor® 647 (sc-19677 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19677 AF680) or Alexa Fluor® 790 (sc-19677 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CD83 (HB15a) is recommended for detection of CD83 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD83 siRNA (h): sc-42808, CD83 shRNA Plasmid (h): sc-42808-SH and CD83 shRNA (h) Lentiviral Particles: sc-42808-V.

Molecular Weight of CD83 precursor: 32 kDa.

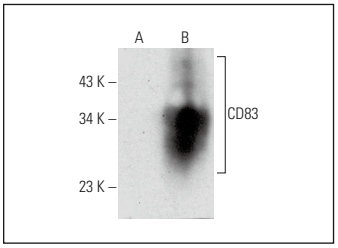
Molecular Weight of glycosylated CD83: 45-60 kDa.

Positive Controls: CD83 (h2): 293T Lysate: sc-175341, K-562 whole cell lysate: sc-2203 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



CD83 (HB15a): sc-19677. Western blot analysis of CD83 expression in non-transfected: sc-117752 (**A**) and human CD83 transfected: sc-175341 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Cao, W., et al. 2005. CD83 is preformed inside monocytes, macrophages and dendritic cells, but it is only stably expressed on activated dendritic cells. Biochem. J. 385: 85-93.
2. Frasca, L., et al. 2006. CD38 orchestrates migration, survival, and Th1 immune response of human mature dendritic cells. Blood 107: 2392-2399.
3. Frankenburg, S., et al. 2007. Immunological activation following transcutaneous delivery of HR-gp100 protein. Vaccine 25: 4564-4570.
4. Baleeiro, R.B. and Barbuto, J.A. 2008. Local secretion/shedding of tumor-derived CD83 molecules as a novel tumor escape mechanism. Mol. Immunol. 45: 3502-3504.
5. Dai, F., et al. 2010. The number and microlocalization of tumor-associated immune cells are associated with patient's survival time in non-small cell lung cancer. BMC Cancer 10: 220.
6. Waleh, N., et al. 2011. Anatomic closure of the premature patent ductus arteriosus: the role of $CD14^+$/$CD163^+$ mononuclear cells and VEGF in neointimal mound formation. Pediatr. Res. 70: 332-338.
7. Kashimura, S., et al. 2012. $CD83^+$ dendritic cells and $Foxp3^+$ regulatory T cells in primary lesions and regional lymph nodes are inversely correlated with prognosis of gastric cancer. Gastric Cancer 15: 144-153.
8. Gonçalves, A.S., et al. 2013. Immune response in cervical lymph nodes from patients with primary oral squamous cell carcinoma. J. Oral Pathol. Med. 42: 535-540.
9. Seeger, P., et al. 2014. Activin A as a mediator of NK-dendritic cell functional interactions. J. Immunol. 192: 1241-1248.
10. Costa, N.L., et al. 2016. Characterization of dendritic cells in lip and oral cavity squamous cell carcinoma. J. Oral Pathol. Med. 45: 418-424.

RESEARCH USE

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