SANTA CRUZ BIOTECHNOLOGY, INC.

CD83 (D-3): sc-55536

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 (D-3) is a mouse monoclonal antibody raised against amino acids 7-205 mapping at the C-terminus of CD83 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.

CD83 (D-3) is available conjugated to agarose (sc-55536 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55536 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55536 PE), fluorescein (sc-55536 FITC), Alexa Fluor® 488 (sc-55536 AF488), Alexa Fluor® 546 (sc-55536 AF546), Alexa Fluor® 594 (sc-55536 AF594) or Alexa Fluor® 647 (sc-55536 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55536 AF680) or Alexa Fluor® 790 (sc-55536 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD83 (D-3) is recommended for detection of CD83 of human origin by Western Blotting (starting dilution 1:500, dilution range 1:500-1:1000), 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 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.

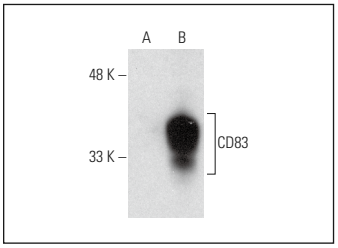
Molecular Weight of glycosylated CD83: 45-60 kDa.

Positive Controls: CD83 (h2): 293T Lysate: sc-175341, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

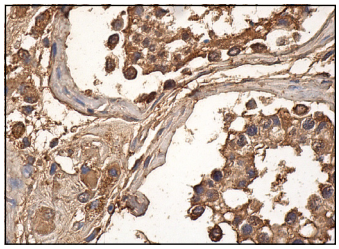
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CD83 (D-3) HRP: sc-55536 HRP. Direct western blot analysis of CD83 expression in non-transfected: sc-117752 (**A**) and human CD83 transfected: sc-175341 (**B**) 293T whole cell lysates.



CD83 (D-3): sc-55536. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Bates, J.M., et al. 2015. Dendritic cell CD83 homotypic interactions regulate inflammation and promote mucosal homeostasis. Mucosal Immunol. 8: 414-428.
2. Hori, Y., et al. 2021. Aromatic-turmerone analogs protect dopaminergic neurons in midbrain slice cultures through their neuroprotective activities. Cells 10: 1090.

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.

PROTOCOLS

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