SANTA CRUZ BIOTECHNOLOGY, INC.

CD83 (HB15E): sc-19678

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 anticancer 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.

REFERENCES

1. Zhou, L.J., et al. 1992. A novel cell-surface molecule expressed by human interdigitating reticulum cells, Langerhans cells, and activated lymphocytes is a new member of the Ig superfamily. J. Immunol. 149: 735-742.
2. Kozlow, E.J., et al. 1993. Subtractive cDNA cloning of a novel member of the Ig gene superfamily expressed at high levels in activated B lymphocytes. Blood 81: 454-461.

CHROMOSOMAL LOCATION

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

SOURCE

CD83 (HB15E) is a mouse monoclonal antibody raised against COS cells transfected with human CD83.

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.

CD83 (HB15E) is available conjugated to either phycoerythrin (sc-19678 PE) or fluorescein (sc-19678 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

CD83 (HB15E) is recommended for detection of CD83 of human origin by immunofluorescence (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.

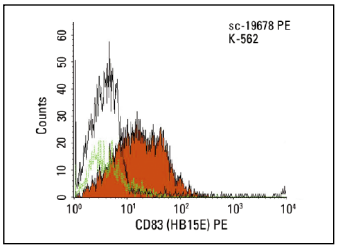
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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.

STORAGE

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

DATA



CD83 (HB15E) PE: sc-19678 PE. FCM analysis of K-562-human CD83 stable transfectant cell line (solid orange histogram) and non-transfected K-562 (dotted green histogram) cells. Black line histogram represents the isotype control, normal mouse IgG_1, sc-2866. Transfected cell line kindly provided by Dr. Thomas Tedder at Duke University Medical Center.

SELECT PRODUCT CITATIONS

1. Gulubova, M., et al. 2010. Role of TGF-β1, its receptor TGFβRII, and Smad proteins in the progression of colorectal cancer. Int. J. Colorectal Dis. 25: 591-599.
2. Bühligen, J., et al. 2010. Lysophosphatidylcholine-mediated functional inactivation of syndecan-4 results in decreased adhesion and motility of dendritic cells. J. Cell. Physiol. 225: 905-914.
3. Gulubova, M.V., et al. 2012. Role of dendritic cells in progression and clinical outcome of colon cancer. Int. J. Colorectal Dis. 27: 159-169.
4. Cirone, M., et al. 2012. Primary effusion lymphoma cell death induced by bortezomib and AG 490 activates dendritic cells through CD91. PLoS ONE 3: e31732.
5. Landsverk, O.J., et al. 2012. Differential regulation of MHC II and invariant chain expression during maturation of monocyte-derived dendritic cells. J. Leukoc. Biol. 91: 729-737.
6. Gulubova, M., et al. 2013. Relationship of TGF-β1 and Smad7 expression with decreased dendritic cell infiltration in liver gastrointestinal cancer metastasis. APMIS 121: 967-975.
7. Bates, J.M., et al. 2015. Dendritic cell CD83 homotypic interactions regulate inflammation and promote mucosal homeostasis. Mucosal Immunol. 8: 414-428.

RESEARCH USE

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

CONJUGATES

See **CD83 (D-3): sc-55536** for CD83 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.