

CD83 (h2): 293T Lysate: sc-175341

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-IgG₁(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., Schwarting, R., Smith, H.M. and Tedder, T.F. 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., Wilson, G.L., Fox, C.H. and Kehrl, J.H. 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.
3. Scholler, N., Hayden-Ledbetter, M., Hellstrom, K.E., Hellstrom, I. and Ledbetter, J.A. 2001. CD83 is an I-type lectin adhesion receptor that binds monocytes and a subset of activated CD8⁺ T cells. *J. Immunol.* 166: 3865-3872.
4. Fong, L., Brockstedt, D., Benike, C., Wu, L. and Engleman, E.G. 2001. Dendritic cells injected via different routes induce immunity in cancer patients. *J. Immunol.* 166: 4254-4259.
5. Berger, C.L., Xu, A.L., Hanlon, D., Lee, C., Schechner, J., Glusac, E., Christensen, I., Snyder, E., Holloway, V., Tigelaar, R. and Edelson, R.L. 2001. Induction of human tumor-loaded dendritic cells. *Int. J. Cancer* 91: 438-447.
6. Lechmann, M., Krooshoop, D.J., Dudziak, D., Kremmer, E., Kuhnt, C., Figdor, C.G., Schuler, G. and Steinkasserer, A. 2001. The extracellular domain of CD83 inhibits dendritic cell-mediated T cell stimulation and binds to a ligand on dendritic cells. *J. Exp. Med.* 194: 1813-1821.
7. Lechmann, M., Kremmer, E., Sticht, H. and Steinkasserer, A. 2002. Overexpression, purification, and biochemical characterization of the extracellular human CD83 domain and generation of monoclonal antibodies. *Protein Expr. Purif.* 24: 445-452.

CHROMOSOMAL LOCATION

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

PRODUCT

CD83 (h2): 293T Lysate represents a lysate of human CD83 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

CD83 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive CD83 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

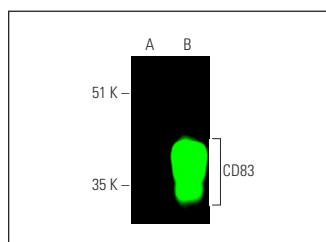
CD83 (D-3): sc-55536 is recommended as a positive control antibody for Western Blot analysis of enhanced human CD83 expression in CD83 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

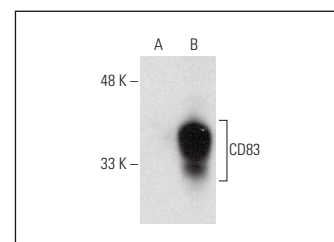
To ensure optimal results, the following support reagents are recommended:

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.

DATA



CD83 (D-3): sc-55536. Near-infrared western blot analysis of CD83 expression in non-transfected: sc-117752 (A) and human CD83 transfected: sc-175341 (B) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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