

B7-H3 (D-8): sc-398444



The Power to Question

BACKGROUND

T cell activation and immune function are regulated by the innate immune system through positive and negative costimulatory molecules. One such molecule, B7-H3 (B7-homolog 3, also designated B7RP-2) belongs to the B7 Immunoglobulin superfamily. Soluble B7-H3 binds a putative receptor on activated T-cells that is distinct from CD28, CTLA-4, ICOS and PD-1. Widely expressed on nonlymphoid tissues, B7-H3 costimulates proliferation of both CD4⁺ and CD8⁺ T cells. The ability of B7-H3 to stimulate Th1 and cytotoxic-T cell responses suggest that it may have antitumor activity. B7-H3 interactions may play a role in regulating cell-mediated immune responses against cancer, implicating B7-H3 as a potential therapeutic tool.

REFERENCES

1. Chapoval, A.I., et al. 2001. B7-H3: a costimulatory molecule for T cell activation and IFN- γ production. *Nat. Immunol.* 2: 269-274.
2. Ferlazzo, G., et al. 2002. T lymphocytes express B7 family molecules following interaction with dendritic cells and acquire bystander costimulatory properties. *Eur. J. Immunol.* 32: 3092-3101.
3. Sun, M., et al. 2002. Characterization of mouse and human B7-H3 genes. *J. Immunol.* 168: 6294-6297.
4. Suh, W.K., et al. 2003. The B7 family member B7-H3 preferentially down-regulates T helper type 1-mediated immune responses. *Nat. Immunol.* 4: 899-906.
5. Sun, X., et al. 2003. Mouse B7-H3 induces antitumor immunity. *Gene Ther.* 10: 1728-1734.
6. Prasad, D.V., et al. 2004. Murine B7-H3 is a negative regulator of T cells. *J. Immunol.* 173: 2500-2506.
7. Suh, W.K., et al. 2004. The immune regulatory protein B7-H3 promotes osteoblast differentiation and bone mineralization. *Proc. Natl. Acad. Sci. USA* 101: 12969-12973.

CHROMOSOMAL LOCATION

Genetic locus: CD276 (human) mapping to 15q24.1; Cd276 (mouse) mapping to 9 B.

SOURCE

B7-H3 (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 83-108 near the N-terminus of B7-H3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398444 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

B7-H3 (D-8) is recommended for detection of B7-H3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

B7-H3 (D-8) is also recommended for detection of B7-H3 in additional species, including canine and bovine.

Suitable for use as control antibody for B7-H3 siRNA (h): sc-45444, B7-H3 siRNA (m): sc-45445, B7-H3 shRNA Plasmid (h): sc-45444-SH, B7-H3 shRNA Plasmid (m): sc-45445-SH, B7-H3 shRNA (h) Lentiviral Particles: sc-45444-V and B7-H3 shRNA (m) Lentiviral Particles: sc-45445-V.

Molecular Weight of B7-H3 isoforms: 57/34/53/57 kDa.

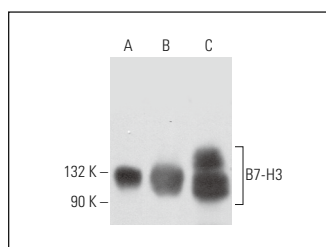
Molecular Weight of glycosylated B7-H3: 90-110 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, JAR cell lysate: sc-2276 or HeLa whole cell lysate: sc-2200.

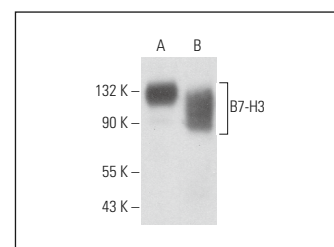
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



B7-H3 (D-8): sc-398444. Western blot analysis of B7-H3 expression in JAR (A) and PC-3 (B) whole cell lysates and human placenta tissue extract (C).



B7-H3 (D-8): sc-398444. Western blot analysis of B7-H3 expression in MCF7 (A) and HeLa (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Vacca, P., et al. 2019. PD-1 is expressed by and regulates human group 3 innate lymphoid cells in human decidua. *Mucosal Immunol.* 12: 624-631.

STORAGE

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