SANTA CRUZ BIOTECHNOLOGY, INC.

# B7-H3 (G-12): sc-398403

SANTA CRUZ BIOTECHNOLOGY

*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 (G-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 82-107 near the N-terminus of B7-H3 of human origin.

## 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.

Blocking peptide available for competition studies, sc-398403 P, (100 µg 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 (G-12) 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 µg per 100-500 µg 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 (G-12) is also recommended for detection of B7-H3 in additional species, including canine and bovine.

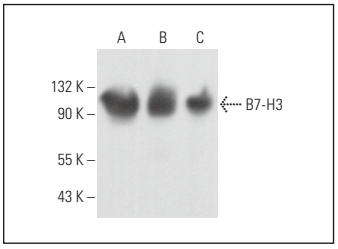
Suitable for use as control antibody for B7-H3 siRNA (h): sc-45444, B7-H3 siRNA (m): sc-45445, B7-H3 shRNA Plasmid (h): sc-45444-SH, B7-H3 shRNA Plasmid (m): sc-45445-SH, B7-H3 shRNA (h) Lentiviral Particles: sc-45444-V and B7-H3 shRNA (m) Lentiviral Particles: sc-45445-V.

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

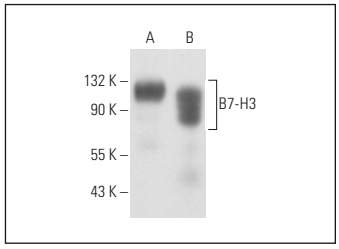
Molecular Weight of glycosylated B7-H3: 90-110 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

## DATA




B7-H3 (G-12): sc-398403. Western blot analysis of B7-H3 expression in A-431 (**A**), PC-3 (**B**) and JAR (**C**) whole cell lysates.




B7-H3 (G-12): sc-398403. Western blot analysis of B7-H3 expression in MCF7 (**A**) and HeLa (**B**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Corsello, T., et al. 2019. Wharton's jelly mesenchymal stromal cells from human umbilical cord: a close-up on immunomodulatory molecules featured *in situ* and *in vitro*. Stem Cell Rev. Rep. 15: 900-918.


## STORAGE

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

## PROTOCOLS

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