SANTA CRUZ BIOTECHNOLOGY, INC.

Blimp-1 (C-7): sc-398699

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The development and differentiation of plasma cells, which are terminally differentiated B-cells, are induced by Blimp-1 (B lymphocyte-induced maturation protein, also designated PRDI-BF1). Blimp-1 is a transcriptional repressor that localizes to the nucleus and is considered a master regulator of terminal B-cell development. Alone, Blimp-1 is sufficient to trigger terminal B-cell differentiation. Blimp-1 upregulates the expression of syndecan-1 and J chain, represses IFN-β gene transcription and associates with HDAC to recruit it to DNA, thereby repressing c-Myc. Blimp-1 is expressed during the late stages of B-cell differentiation in immunoglobulin-secreting plasma cells, as well as in long-lived, bone marrow plasma cells. The expression of Blimp-1 defines a checkpoint beyond which fully activated B cells proceed to the plasma cell stage, whereas immature and partially activated cells are eliminated.

REFERENCES

1. Turner, C.A., Jr., et al. 1994. Blimp-1, a novel zinc finger-containing protein that can drive the maturation of B lymphocytes into immunoglobulin-secreting cells. Cell 77: 297-306.
2. Messika, E.J., et al. 1998. Differential effect of B lymphocyte-induced maturation protein (Blimp-1) expression on cell fate during B cell development. J. Exp. Med. 188: 515-525.
3. Knodel, M., et al. 1999. Reversal of Blimp-1-mediated apoptosis by AI, a member of the Bcl-2 family. Eur. J. Immunol. 29: 2988-2998.
4. Angelin-Duclos, C., et al. 2000. Commitment of B lymphocytes to a plasma cell fate is associated with Blimp-1 expression *in vivo*. J. Immunol. 65: 5462-5471.

CHROMOSOMAL LOCATION

Genetic locus: PRDM1 (human) mapping to 6q21; Prdm1 (mouse) mapping to 10 B2.

SOURCE

Blimp-1 (C-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 21-57 near the N-terminus of Blimp-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398699 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-398699 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

Blimp-1 (C-7) is recommended for detection of Blimp-1 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).

Suitable for use as control antibody for Blimp-1 siRNA (h): sc-37714, Blimp-1 siRNA (m): sc-37715, Blimp-1 shRNA Plasmid (h): sc-37714-SH, Blimp-1 shRNA Plasmid (m): sc-37715-SH, Blimp-1 shRNA (h) Lentiviral Particles: sc-37714-V and Blimp-1 shRNA (m) Lentiviral Particles: sc-37715-V.

Blimp-1 (C-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

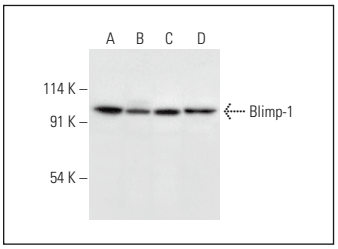
Molecular Weight of Blimp-1: 90 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, HeLa whole cell lysate: sc-2200 or Ramos cell lysate: sc-2216.

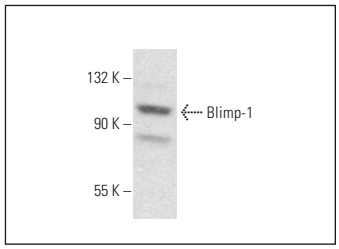
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Blimp-1 (C-7): sc-398699. Western blot analysis of Blimp-1 expression in BJAB (**A**), HeLa (**B**) and Ramos (**C**) whole cell lysates and HL-60 nuclear extract (**D**).



Blimp-1 (C-7): sc-398699. Western blot analysis of Blimp-1 expression in Raji whole cell lysate.

SELECT PRODUCT CITATIONS

1. Liang, J., et al. 2016. Downregulation of ZBTB24 hampers the $G_{0/1}$- to S-phase cell-cycle transition via upregulating the expression of IRF-4 in human B cells. Genes Immun. 17: 276-282.

CONJUGATES

See **Blimp-1 (6D3): sc-47732** for Blimp-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.