

Blimp-1 (5E7): sc-130917

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. Shaffer, A.L., et al. 2000. Bcl-6 represses genes that function in lymphocyte differentiation, inflammation, and cell cycle control. *Immunity* 13: 199-212.

CHROMOSOMAL LOCATION

Genetic locus: Prdm1 (mouse) mapping to 10 B2.

SOURCE

Blimp-1 (5E7) is a rat monoclonal antibody raised against a recombinant protein corresponding to amino acids 255-395 of Blimp-1 of mouse origin.

PRODUCT

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

APPLICATIONS

Blimp-1 (5E7) is recommended for detection of Blimp-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

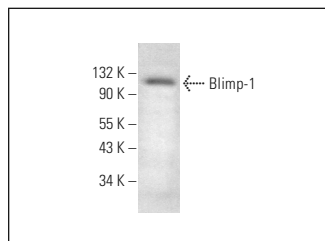
Molecular Weight of Blimp-1: 90 kDa.

Positive Controls: TK-1 whole cell lysate: sc-364798.

STORAGE

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

DATA



Blimp-1 (5E7): sc-130917. Western blot analysis of Blimp-1 expression in TK-1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Morgan, M.A., et al. 2012. Alternative splicing regulates Prdm1/Blimp-1 DNA binding activities and corepressor interactions. *Mol. Cell. Biol.* 32: 3403-3413.
2. Mould, A., et al. 2012. Blimp-1/Prdm1 governs terminal differentiation of endovascular trophoblast giant cells and defines multipotent progenitors in the developing placenta. *Genes Dev.* 26: 2063-2074.
3. Mould, A.W., et al. 2015. Blimp-1/Prdm1 functions in opposition to Irf1 to maintain neonatal tolerance during postnatal intestinal maturation. *PLoS Genet.* 11: e1005375.
4. Nelson, A.C., et al. 2016. Single-cell RNA-seq reveals cell type-specific transcriptional signatures at the maternal-foetal interface during pregnancy. *Nat. Commun.* 7: 11414.
5. Kapadia, B., et al. 2018. Fatty acid synthase induced S6Kinase facilitates USP11-eIF4B complex formation for sustained oncogenic translation in DLBCL. *Nat. Commun.* 9: 829.
6. Senft, A.D., et al. 2019. Genetic dissection of Nodal and Bmp signalling requirements during primordial germ cell development in mouse. *Nat. Commun.* 10: 1089.
7. Kapadia, B.B., et al. 2022. PARK2 regulates eIF4B-driven lymphomagenesis. *Mol. Cancer Res.* E-published.
8. Dupont, C., et al. 2023. Efficient generation of ETX embryoids that recapitulate the entire window of murine egg cylinder development. *Sci. Adv.* 9: eadd2913.

RESEARCH USE

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



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.