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Datasheet for 600-401-B52

PRDM1 BLIMP1 Antibody

Overview

Description:	Anti-PRDM1/BLIMP1 (RABBIT) Antibody - 600-401-B52
Item No.:	600-401-B52
Size:	100 µg
Applications:	ELISA, IHC, WB, ChIP
Reactivity:	Human
Host Species:	Rabbit

Product Details

Background:	Anti-Blimp1 is ideal for Immunology, Epigenetic and Nuclear Signaling research. PRDM1/Blimp1 (PR domain zinc finger protein 1, PR domain-containing protein 1, Beta-interferon gene positive regulatory domain I-binding factor, BLIMP-1, Positive regulatory domain I-binding factor 1, PRDI-binding factor 1, or PRDI-BF1, or Beta-lymphocyte-induced maturation protein 1) is one of several transcription factors which drives the maturation of B-lymphocytes into Ig secreting cells. In the nucleus, PRDM1/BLIMP1 functions as a transcriptional repressor that binds specifically to the PRDI element in the promoter of the beta-interferon gene. Transcription of the PRDM1 gene is increased upon virus induction. PRDM1/Blimp1 also interacts with PRMT5. Two alternatively spliced transcript variants that encode different isoforms have been reported.
Synonyms:	rabbit anti-Blimp-1 antibody, rabbit anti-PRDM-1 antibody, anti-PRDM1/BLIMP1 antibody, PR domain zinc finger protein 1, PR domain-containing protein 1, Beta-interferon gene positive regulatory domain I-binding factor, BLIMP-1, Beta-lymphocyte-induced maturation protein 1, positive regulatory domain I-binding factor 1, PRDI-BF1, PRDI-binding factor 1, BLIMP1, BLIMP 1, PRDM1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	PRDM1
Reactivity:	Human

Immunogen Type:	Conjugated Peptide
Immunogen:	Anti-Blimp1 antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a region near the C-terminus of human, mouse, and rat PRDM1/BLIMP1.
Purity/Specificity:	This affinity purified antibody is directed against human BLIMP1 protein. The product was affinity purified from monospecific antiserum by immunoaffinity chromatography. This antibody is predicted to react with BLIMP1 and its isoforms from human, mouse, rat and other sources based on a 100% homology with the immunizing sequence. This antibody may also recognize other proteins that show high homology/identity with the BLIMP1 sequence.
Relevant Links:	• UniProtKB - Q60636 • NCBI - 25008939 • GeneID - 639

Application Details

Tested Applications:	ELISA, IHC, WB
Suggested Applications:	ChIP (Based on references)
Application Note:	This affinity purified antibody has been tested for use in ELISA, Immunohistochemistry, and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band at ~88 kDa in size corresponding to BLIMP1 by western blotting in the appropriate cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:20,000 - 1:40,000
IHC:	5µg/mL
IP:	5-10 µg/mL
WB:	1:1,000

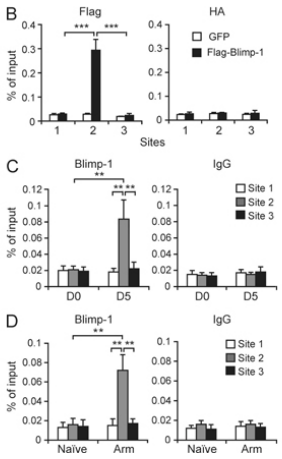
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

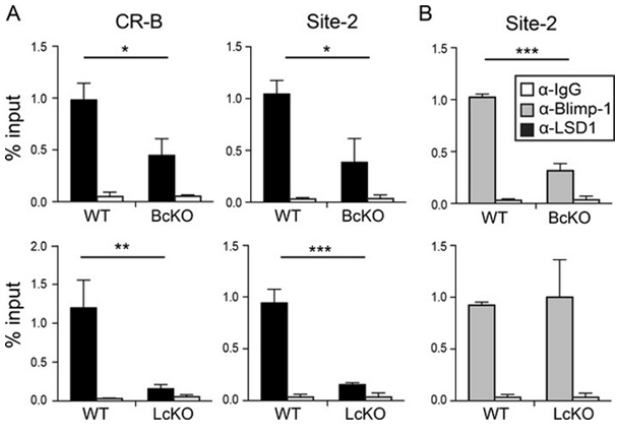
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store Blimp1 antibody at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

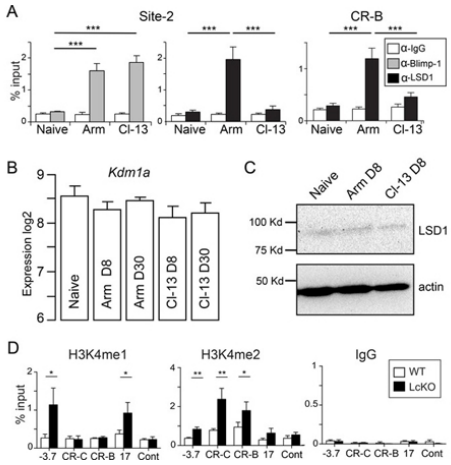


ChIP
(B–D) ChIP analysis of Blimp-1 binding to the PD-1 promoter was performed with chromatin from EL4 cells, splenic CD8 T cells, and LCMV antigen-specific transgenic CD8 T cells. Putative Blimp-1 binding sites shown in A were examined for each experimental setting. (B) EL4 cells were transduced with adenovirus expressing GFP or Flag-Blimp-1 and stimulated with PMA/ionomycin before ChIP analysis. Anti-Flag and control mouse monoclonal (HA,12CA5) antibodies were used for the ChIP assays as indicated. (C) Control, unstimulated (day 0, D0) CD8 T cells and anti-CD3/CD28–stimulated splenic CD8 T cells for 5 d (D5) were used for these ChIP assays. Nonspecific rabbit IgG was used as a control ChIP antibody (right). (D) P14 CD8 T cells were adoptively transferred into WT Thy1.2+ C57B/6 mice and analyzed 8 d after infection with LCMV Armstrong. Nonspecific rabbit IgG was used as a control ChIP antibody (right). Results of all ChIP experiments are presented as percentage of input DNA and are representative of three independent experiments (mean ± SD). A two-tailed Student's t test was used to determine significance. **, $P < 0.01$; ***, $P < 0.001$. Fig 3. PMID: 24590765



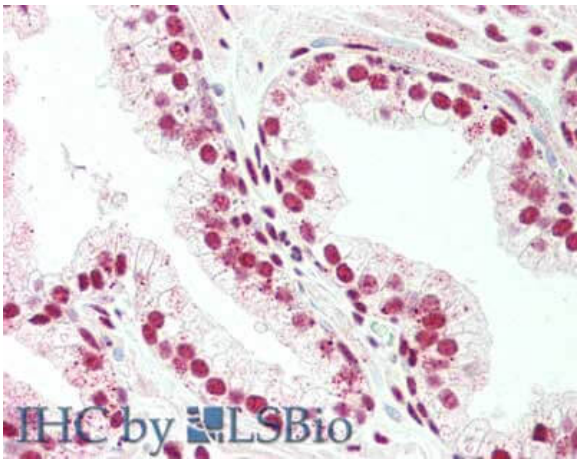
ChIP

CD8 T cells from LcKO, BcKO, and WT control mice were isolated by magnetic separation and then stimulated with αCD3/CD28 beads for 96 hours. Chromatin was prepared from collected cells and then subject to ChIP. (A) Binding of LSD1 to the CR-B and site-2 regions of the Pdcd1 locus. (B) Binding of Blimp-1 to site 2 of the Pdcd1 locus. An α-IgG antibody was used as a control for ChIP experiments. Data are representative of three independent experiments containing 3 to mice per group. A two tailed Student's t test was used to determine statistical significance. **, P < 0.01 ***, P < 0.001. Fig 4. PMID: 31811020

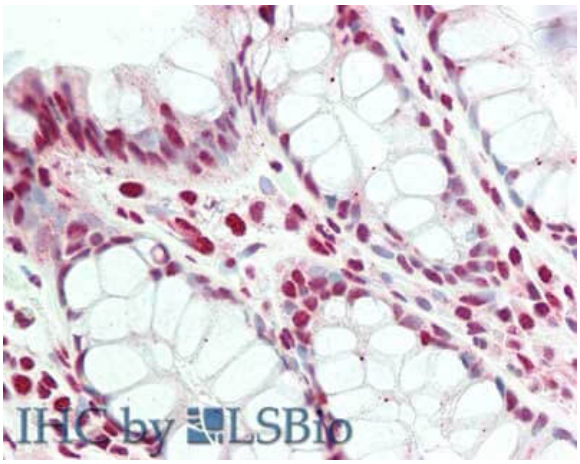


ChIP

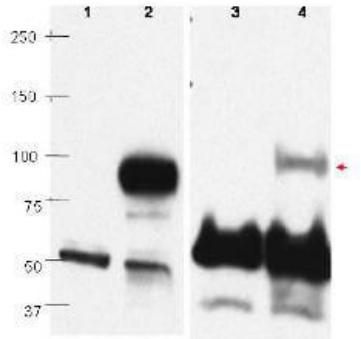
A) C57BL/6 mice were infected with either LCMV Armstrong (Arm) or Clone-13 (Cl-13) for 8 days. CD8 T cells were isolated by magnetic separation and subject to ChIP to assess LSD1 binding at CR-B and site-2 and Blimp-1 binding at site 2 of the Pdcd1 locus. Naïve CD8 T cells were also magnetically isolated (See Methods) from uninfected mice were used as a control, as was an α-IgG antibody. (B) Microarray RNA expression data from (40) was analyzed for Kdm1a expression (LSD1). (C) Western blot for LSD1 from lysates prepared from CD8 T cells isolated from naïve, Armstrong day 8 or Clone-13 day 8 infected C57BL/6 mice. Actin is also shown as a loading control. (D) LcKO and littermate control WT mice were infected with LCMV Armstrong. At day 8, gp33-, gp276-, and np396-specific CD8 T cells were isolated, pooled, and subjected to ChIP with α-H3K4me1 and H3K4me2 antibodies at the indicated regions of the Pdcd1 locus. For (A) and (D), data represent groups of 3 to 4 mice from two independent experiments. A two tailed Student's t test was used to determine statistical significance between samples. *, P < 0.05 ***, P < 0.001. Fig 5. PMID: 31811020



Immunohistochemistry
Immunohistochemistry of rabbit anti-PRDM1-BLMP1 antibody. Tissue: prostate. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: Anti-PRDM1-BLMP1 at 5 µg/mL for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Staining: PRDM1-BLMP1 as precipitated red signal with hematoxylin purple nuclear counterstain.



Immunohistochemistry
Immunohistochemistry of rabbit anti-PRDM1-BLMP1 antibody. Tissue: colon. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: Anti-PRDM1-BLMP1 at 5 µg/mL for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Staining: PRDM1-BLMP1 as precipitated red signal with hematoxylin purple nuclear counterstain.



Western Blot
Western blots using Rockland's affinity purified anti-PRDM1/BLIMP1 antibody show detection of overexpressed PRDM1/BLIMP1 at ~88kDa. Lane 1: mock Raji cell lysate. Lane 2: overexpressed PRDM1/BLIMP1 in whole transfected Raji cell lysate. Lane 3: Raji whole cell nuclear extract. Lane 4: endogenous PRDM1/BLIMP1 in human plasma cell nuclear extract. The identity of the lower dark band at ~50-60kDa is unknown. Primary antibody was used at a 1:1000 dilution in 5% PBS-Tween. Personal communication, Hyesuk Yoon and Jerry Boss, Emory University, Atlanta, GA.

References

- Bally, APR et al. PD-1 Expression during Acute Infection Is Repressed through an LSD1-Blimp-1 Axis. *Journal of Immunology (Baltimore, Md. : 1950)* (2020)
- Lu P et al. Blimp-1 represses CD8 T cell expression of PD-1 using a feed-forward transcriptional circuit during acute viral infection. *J Exp Med.* (2014)

Disclaimer

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