

# VpreB (M-17): sc-25014

## BACKGROUND

VpreB (also known as CD179a or pre-B lymphocyte 1) is expressed in pre-B lymphocytes, but not in mature B cells or in other blood cell lineages. The gene which encodes VpreB maps to human chromosome 22q11.22. The VpreB and  $\lambda$  five genes encode the  $\iota$  and  $\omega$  polypeptide chains, respectively, which associate with the Ig- $\mu$  chain to form a molecular complex that is expressed on the surface of pre-B cells. This complex presumably regulates Ig gene rearrangements in the early steps of B cell differentiation. In the mouse the two genes are simultaneously expressed in pre-B cells and belong to the same transcription unit. A primary transcript is synthesized from which the pre-B and  $\lambda$  5 mRNAs are derived by alternative splicing. In the human, however, the two genes are separate and do not belong to the same transcription unit.

## REFERENCES

1. Kudo, A. and Melchers, F. 1987. A second gene, Vpre-B in the  $\lambda$  5 locus of the mouse, which appears to be selectively expressed in pre-B lymphocytes. *EMBO J.* 6: 2267-2272.
2. Bauer, S.R., Huebner, K., Budarf, M., Finan, J., Erikson, J., Emanuel, B.S., Nowell, P.C., Croce, C.M. and Melchers, F. 1988. The human V(pre)B gene is located on chromosome 22 near a cluster of V ( $\lambda$ -1) gene segments. *Immunogenetics* 28: 328-333.
3. Pillai, S. and Baltimore, D. 1988. The  $\omega$  and  $\iota$  surrogate immunoglobulin light chains. *Curr. Top. Microbiol. Immun.* 137: 136-139.
4. Mattei, M.-G., Fumoux, F., Roedel, N., Fougereau, M. and Schiff, C. 1991. The human pre-B-specific  $\lambda$ -like cluster is located in the 22q11.2-22q12.3 region, distal to the IgC- $\lambda$  locus. *Genomics* 9: 544-546.
5. Licence, S., Persson, C., Mundt, C. and Martensson, I.L. 2003. The VpreB1 enhancer drives developmental stage-specific gene expression *in vivo*. *Eur. J. Immunol.* 33: 1117-1126.

## CHROMOSOMAL LOCATION

Genetic locus: Vpreb1/Vpreb2 (mouse) mapping to 16 A3.

## SOURCE

VpreB (M-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of VpreB of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-25014 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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

VpreB (M-17) is recommended for detection of VpreB1 and VpreB2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 VpreB siRNA (m): sc-44630, VpreB shRNA Plasmid (m): sc-44630-SH and VpreB shRNA (m) Lentiviral Particles: sc-44630-V.

Molecular Weight of VpreB: 16 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Kawano, Y., Yoshikawa, S., Minegishi, Y. and Karasuyama, H. 2006. Pre-B cell receptor assesses the quality of IgH chains and tunes the pre-B cell repertoire by delivering differential signals. *J. Immunol.* 177: 2242-2249.
2. Hauser, J., Verma-Gaur, J. and Grundström, T. 2013. Broad feedback inhibition of pre-B-cell receptor signaling components. *Mol. Immunol.* 54: 247-253.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **VpreB (H-11): sc-514957**, our highly recommended monoclonal alternative to VpreB (M-17).