

VpreB3 (FT-32): sc-135605

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 22q11.23. The VpreB and λ 5 genes encode the ι and ω polypeptide chains, respectively, which associate with the Ig- μ 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 λ 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 λ 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 VpreB gene is located on chromosome 22 near a cluster of V λ gene segments. *Immunogenetics* 28: 328-333.
3. Pillai, S. and Baltimore, D. 1988. The ω and ι surrogate immunoglobulin light chains. *Curr. Top. Microbiol. Immunol.* 137: 136-139.
4. Mattei, M.G., Fumoux, F., Roedel, N., Fougereau, M. and Schiff, C. 1991. The human pre-B-specific λ -like cluster is located in the 22q11.2-22q12.3 region, distal to the IgC- λ locus. *Genomics* 9: 544-546.
5. Seidl, T., Rolink, A. and Melchers, F. 2001. The VpreB protein of the surrogate light-chain can pair with some μ heavy-chains in the absence of the λ 5 protein. *Eur. J. Immunol.* 31: 1999-2006.
6. Stephan, R.P., Elgavish, E., Karasuyama, H., Kubagawa, H. and Cooper, M.D. 2001. Analysis of VpreB expression during B lineage differentiation in λ 5-deficient mice. *J. Immunol.* 167: 3734-3739.
7. 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.
8. Cannon, J.P., Haire, R.N., Pancer, Z., Mueller, M.G., Skapura, D., Cooper, M.D. and Litman, G.W. 2005. Variable domains and a VpreB-like molecule are present in a jawless vertebrate. *Immunogenetics* 56: 924-929.
9. Parker, M.J., Licence, S., Erlandsson, L., Galler, G.R., Chakalova, L., Osborne, C.S., Morgan, G., Fraser, P., Jumaa, H., Winkler, T.H., Skok, J. and Martensson, I.L. 2005. The pre-B cell receptor induces silencing of VpreB and λ 5 transcription. *EMBO J.* 24: 3895-3905.

CHROMOSOMAL LOCATION

Genetic locus: VPREB3 (human) mapping to 22q11.23.

SOURCE

VpreB3 (FT-32) is a mouse monoclonal antibody raised against recombinant VpreB3 protein of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

VpreB3 (FT-32) is recommended for detection of VpreB3 of human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VpreB3 siRNA (h): sc-63214, VpreB3 shRNA Plasmid (h): sc-63214-SH and VpreB3 shRNA (h) Lentiviral Particles: sc-63214-V.

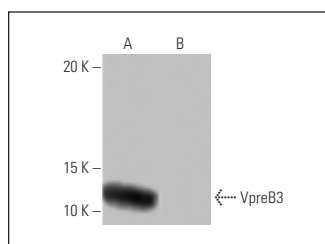
Molecular Weight of VpreB3: 16 kDa.

Positive Controls: Ramos cell lysate: sc-2216 or human VpreB3 transfected 293T whole cell lysate.

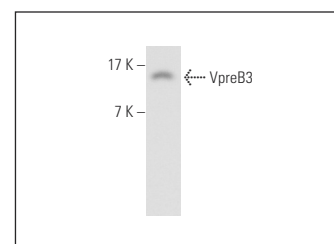
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



VpreB3 (FT-32): sc-135605. Western blot analysis of VpreB3 expression in human VpreB3 transfected (A) and non-transfected (B) 293T whole cell lysates.



VpreB3 (FT-32): sc-135605. Western blot analysis of VpreB3 expression in Ramos whole cell lysate.

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.

PROTOCOLS

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