

VpreB (H-11): sc-514957

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 $\lambda 5$ 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 $\lambda 5$ 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, VpreB 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., et al. 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., et al. 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., et al. 2001. The VpreB protein of the surrogate light-chain can pair with some μ heavy-chains in the absence of the $\lambda 5$ protein. Eur. J. Immunol. 31: 1999-2006.

CHROMOSOMAL LOCATION

Genetic locus: VPRED1 (human) mapping to 22q11.22; Vpreb1/Vpreb2 (mouse) mapping to 16 A3, Vpreb3 (mouse) mapping to 10 C1.

SOURCE

VpreB (H-11) is a mouse monoclonal antibody raised against amino acids 91-145 mapping at the C-terminus of VpreB of human origin.

PRODUCT

Each vial contains 200 μ g IgG γ_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VpreB (H-11) is available conjugated to agarose (sc-514957 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514957 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514957 PE), fluorescein (sc-514957 FITC), Alexa Fluor[®] 488 (sc-514957 AF488), Alexa Fluor[®] 546 (sc-514957 AF546), Alexa Fluor[®] 594 (sc-514957 AF594) or Alexa Fluor[®] 647 (sc-514957 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514957 AF680) or Alexa Fluor[®] 790 (sc-514957 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

VpreB (H-11) is recommended for detection of VpreB of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 VpreB siRNA (h): sc-44629, VpreB siRNA (m): sc-44630, VpreB shRNA Plasmid (h): sc-44629-SH, VpreB shRNA Plasmid (m): sc-44630-SH, VpreB shRNA (h) Lentiviral Particles: sc-44629-V and VpreB shRNA (m) Lentiviral Particles: sc-44630-V.

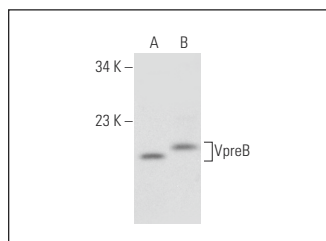
Molecular Weight of VpreB: 16 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225 or NFS-25 C-3 whole cell lysate: sc-364787.

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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



VpreB (H-11): sc-514957. Western blot analysis of VpreB expression in NFS-25 C-3 (A) and CCRF-CEM (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lee, D.H., et al. 2020. Increased O-glcNAcylation of c-Myc promotes pre-B cell proliferation. Cells 9: 158.

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.