



# Lambda 5 (G-3): sc-514126

## BACKGROUND

Lambda 5 (also called immunoglobulin Lambda-like polypeptide 1 or CD179b antigen) and VpreB comprise the surrogate light chain of the pre-B cell receptor complex. SL chain is also part of a quality control mechanism that tests a  $\mu$ -chain for its ability to pair with conventional L chains. It can form Ig-like complexes with the heavy (H) chain, the DHJHC  $\mu$ -protein or the p55 chain. Production of the surrogate light chain begins at the stage of pro-B cells, continues during the pre-B cell stage and halts at the immature B cell stage. Once pre-BCR is expressed, SL chain expression is turned off. As pre-B II cells proliferate, SL is diluted out, thus limiting pre-BCR formation. Lambda 5 is critical for B cell development in mammals. Expression of Lambda 5 is highest in liver, pre-B lymphocytes and bone marrow, the major source of B cell precursors.

## REFERENCES

- Hollis, G., et al. 1989. Immunoglobulin  $\lambda$  light-chain-related genes 14.1 and 16.1 are expressed in pre-B cells and may encode the human immunoglobulin  $\omega$  light-chain protein. *Proc. Natl. Acad. Sci. USA* 86: 5552-5556.
- Bossy, D., et al. 1991. Organization and expression of the Lambda-like genes that contribute to the  $\mu$ - $\psi$  light chain complex in human pre-B cells. *Int. Immunol.* 11: 1081-1090.
- Mai, S., et al. 1995. The c-Myc protein represses the Lambda 5 and TdT initiators. *Nucleic Acids Res.* 23: 1-9.
- Corcos, D., et al. 1995. Pre-B cell development in the absence of Lambda 5 in transgenic mice expressing a heavy-chain disease protein. *Curr. Biol.* 5: 1140-1148.
- Minegishi, Y., et al. 1998. Mutations in the human Lambda 5/14.1 gene result in B cell deficiency and agammaglobulinemia. *J. Exp. Med.* 187: 71-77.
- Donohoe, M.E., et al. 2000. Transgenic human Lambda 5 rescues the murine Lambda 5 nullizygous phenotype. *J. Immunol.* 164: 5269-5276.
- Bradl, H., et al. 2003. Interaction of murine precursor B cell receptor with stroma cells is controlled by the unique tail of Lambda 5 and stroma cell-associated heparan sulfate. *J. Immunol.* 171: 2338-2348.

## CHROMOSOMAL LOCATION

Genetic locus: Igll1 (mouse) mapping to 16 A3.

## SOURCE

Lambda 5 (G-3) is a mouse monoclonal antibody raised against amino acids 31-90 mapping near the N-terminus of Lambda 5 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

Lambda 5 (G-3) is recommended for detection of Lambda 5 of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 Lambda 5 siRNA (m): sc-44544, Lambda 5 shRNA Plasmid (m): sc-44544-SH and Lambda 5 shRNA (m) Lentiviral Particles: sc-44544-V.

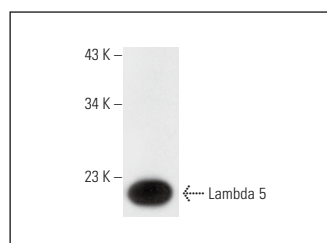
Molecular Weight of Lambda 5: 22 kDa.

Positive Controls: NFS-25 C-3 whole cell lysate: sc-364787 or NFS-70 whole cell lysate.

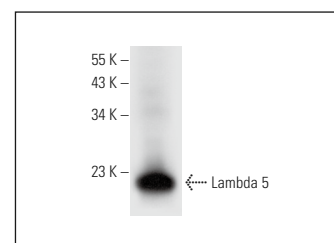
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



Lambda 5 (G-3): sc-514126. Western blot analysis of Lambda 5 expression in NFS-25 C-3 whole cell lysate.



Lambda 5 (G-3): sc-514126. Western blot analysis of Lambda 5 expression in NFS-70 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.

## PROTOCOLS

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