

# Lambda 5 (C-16): sc-28106

## 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.
- Schuh, W., et al. 2003. Cutting edge: signaling and cell surface expression of a  $\mu$ H chain in the absence of Lambda 5: a paradigm revisited. *J. Immunol.* 171: 3343-3347.

## CHROMOSOMAL LOCATION

Genetic locus: IGLL1 (human) mapping to 22q11.23, IGLC3/IGLC1 (human) mapping to 22p13.

## SOURCE

Lambda 5 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Lambda 5 of human origin.

## RESEARCH USE

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

## 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-28106 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

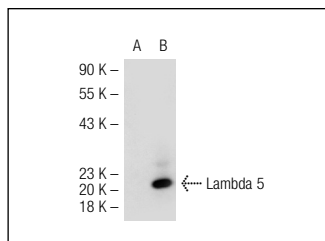
Lambda 5 (C-16) is recommended for detection of Lambda 5 and Ig  $\lambda$  chain of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Lambda 5 (C-16) is also recommended for detection of Lambda 5 and Ig  $\lambda$  chain in additional species, including canine.

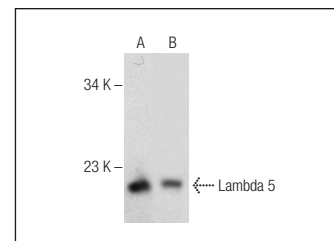
Molecular Weight of Lambda 5: 22 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, CCRF-CEM cell lysate: sc-2225 or Lambda 5 (h): 293T Lysate: sc-113775.

## DATA



Lambda 5 (C-16): sc-28106. Western blot analysis of Lambda 5 expression in non-transfected: sc-117752 (A) and human Lambda 5 transfected: sc-113775 (B) 293T whole cell lysates.



Lambda 5 (C-16): sc-28106. Western blot analysis of Lambda 5 expression in Jurkat (A) and CCRF-CEM (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Li, R.W., et al. 2010. Localized complement activation in the development of protective immunity against *Ostertagia ostertagi* infections in cattle. *Vet. Parasitol.* 174: 247-256.

## 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) or our catalog for detailed protocols and support products.