

# Lambda 5 siRNA (m): sc-44544

## 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

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- 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.

## PRODUCT

Lambda 5 siRNA (m) is a pool of 2 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Lambda 5 shRNA Plasmid (m): sc-44544-SH and Lambda 5 shRNA (m) Lentiviral Particles: sc-44544-V as alternate gene silencing products.

For independent verification of Lambda 5 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-44544A and sc-44544B.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Lambda 5 siRNA (m) is recommended for the inhibition of Lambda 5 expression in mouse cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

Lambda 5 (A-1): sc-398932 is recommended as a control antibody for monitoring of Lambda 5 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Lambda 5 gene expression knockdown using RT-PCR Primer: Lambda 5 (m)-PR: sc-44544-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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

## PROTOCOLS

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