

# Laminin $\beta$ -4 siRNA (h): sc-89412

## BACKGROUND

The Laminins comprise a growing family of disulfide-linked heterotrimers consisting of three genetically distinct polypeptide chains, designated  $\alpha$ ,  $\beta$  and  $\gamma$ . Laminins are a major component of the basal lamina and play a crucial role in providing a scaffolding upon which tissues are assembled. Laminins also serve as a physical barrier separating specialized tissues. During embryogenesis and early development, cells migrate along basement membranes, which are required for the polarization of cells. At least eight Laminin isoforms have been described:  $\alpha$ -1,  $\alpha$ -2,  $\alpha$ -3,  $\beta$ -1,  $\beta$ -2,  $\beta$ -3,  $\beta$ -4,  $\gamma$ -1 and  $\gamma$ -2. Each isoform differs in the relative affinity with which it associates with individual Laminin receptors. Laminin  $\beta$ -4, also known as LAMB4, is a 1,761 amino acid secreted protein that contains 13 Laminin EGF-like domains, one Laminin IV type B domain and a Laminin N-terminal domain. Laminin  $\beta$ -4 exists as three alternatively spliced isoforms and is encoded by a gene located on human chromosome 7q31.1.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: LAMB4 (human) mapping to 7q31.1.

## PRODUCT

Laminin  $\beta$ -4 siRNA (h) is a pool of 3 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 Laminin  $\beta$ -4 shRNA Plasmid (h): sc-89412-SH and Laminin  $\beta$ -4 shRNA (h) Lentiviral Particles: sc-89412-V as alternate gene silencing products.

For independent verification of Laminin  $\beta$ -4 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-89412A, sc-89412B and sc-89412C.

## 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

Laminin  $\beta$ -4 siRNA (h) is recommended for the inhibition of Laminin  $\beta$ -4 expression in human 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Laminin  $\beta$ -4 gene expression knockdown using RT-PCR Primer: Laminin  $\beta$ -4 (h)-PR: sc-89412-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.