

# Laminin $\beta$ -4 (N-16): sc-240610

## 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

1. Yurchenco, P.D. and O'Rear, J.J. 1994. Basal lamina assembly. *Curr. Opin. Cell Biol.* 6: 674-681.
2. Timpl, R. and Brown, J.C. 1994. The laminins. *Matrix Biol.* 14: 275-281.
3. Farwell, A.P., Tranter, M.P. and Leonard, J.L. 1995. Thyroxine-dependent regulation of integrin-laminin interactions in astrocytes. *Endocrinol.* 136: 3909-3915.
4. Engvall, E. 1995. Structure and function of basement membranes. *Intl. J. Dev. Biol.* 39: 781-787.
5. Aumailley, M. and Krieg, T. 1996. Laminins: a family of diverse multifunctional molecules of basement membranes. *J. Invest. Dermatol.* 106: 209-214.
6. Nomizu, M., Utani, A., Beck, K., Otaka, A., Roller, P.P. and Yamada, Y. 1996. Mechanism of laminin chain assembly into a triple-stranded coiled-coil structure. *Biochemistry* 35: 2885-2893.
7. Ziober, B.L., Lin, C.S. and Kramer, R.H. 1996. Laminin-binding integrins in tumor progression and metastasis. *Sem. Cancer Biol.* 7: 119-128.
8. Ancsin, J.B. and Kisilevsky, R. 1996. Laminin interactions important for basement membrane assembly are promoted by zinc and implicate laminin zinc finger-like sequences. *J. Biol. Chem.* 271: 6845-6851.
9. Carloni, V., Romanelli, R.G., Pinzani, M., Laffi, G. and Gentilini P. 1996. Expression and function of integrin receptors for collagen and laminin in cultured human hepatic stellate cells. *Gastroenterol.* 110: 1127-1136.

## CHROMOSOMAL LOCATION

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

## SOURCE

Laminin  $\beta$ -4 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Laminin  $\beta$ -4 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-240610 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Laminin  $\beta$ -4 (N-16) is recommended for detection of Laminin  $\beta$ -4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with Laminin  $\beta$ -1, 2 or 3.

Laminin  $\beta$ -4 (N-16) is also recommended for detection of Laminin  $\beta$ -4 in additional species, including equine.

Suitable for use as control antibody for Laminin  $\beta$ -4 siRNA (h): sc-89412, Laminin  $\beta$ -4 shRNA Plasmid (h): sc-89412-SH and Laminin  $\beta$ -4 shRNA (h) Lentiviral Particles: sc-89412-V.

Molecular Weight of Laminin  $\beta$ -4 isoforms: 194/85/189 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.