SANTA CRUZ BIOTECHNOLOGY, INC.

Laminin β-4 (K-15): sc-240612

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Laminins comprise a growing family of disulfide-linked heterotrimers consisting of three genetically distinct polypeptide chains, designated α, β and γ. 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: α-1, α-2, α-3, β-1, β-2, β-3, β-4, γ-1 and γ-2. Each isoform differs in the relative affinity with which it associates with individual Laminin receptors. Laminin β-4, also known as LAMB4, is a 1,761 amino acid secreted protein that contains thirteen Laminin EGF-like domains, one Laminin IV type B domain and a Laminin N-terminal domain. Laminin β-4 exists as three alternatively spliced isoforms and is encoded by a gene located on human chromosome 7q31.1.

REFERENCES

1. Aumailley, M. and Krieg, T. 1996. Laminins: a family of diverse multifunctional molecules of basement membranes. J. Invest. Dermatol. 106: 209-214.
2. 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.
3. 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.
4. 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.
5. Engvall, E. 1995. Structure and function of basement membranes. Int. J. Dev. Biol. 39: 781-787.
6. Yurchenco, P.D. and O'Rear, J.J. 1994. Basal lamina assembly. Curr. Opinion Cell Biol. 6: 674-681.
7. Timpl, R. and Brown, J.C. 1994. The laminins. Matrix Biol. 14: 275-281.
8. Farwell, A.P., Tranter, M.P. and Leonard, J.L. 1995. Thyroxine-dependent regulation of integrin-laminin interactions in astrocytes. Endocrinol. 136: 3909-3915.
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 β-4 (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Laminin β-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-240612 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Laminin β-4 (K-15) is recommended for detection of Laminin β-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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); non cross-reactive with Laminin β-1, 2 or 3.

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

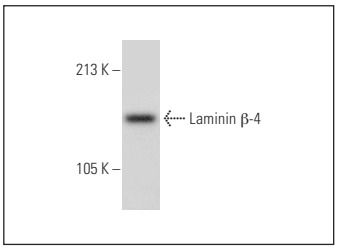
Molecular Weight of Laminin β-4 isoforms: 194/85/189 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Laminin β-4 (K-15): sc-240612. Western blot analysis of Laminin β-4 expression in HEK293 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.

RESEARCH USE

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