SANTA CRUZ BIOTECHNOLOGY, INC.

Laminin β-1 (A-1): sc-17810

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Laminins are essential and abundant structural non-collagenous glycoproteins localizing to basement membranes. Basement membranes (cell-associated extracellular matrices (ECMs)) are polymers of Laminins with stabilizing type IV collagen networks, nidogen and several proteoglycans. Basement membranes are found under epithelial layers, around the endothelium of blood vessels and surrounding muscle, peripheral nerve and fat cells. Formation of basement membranes influences cell proliferation, phenotype, migration, gene expres-sion and tissue architecture. Each Laminin is a heterotrimer of α, β and γ chain subunits that undergoes cell-secretion and incorporation into the ECM. Laminins can self-assemble and bind to other matrix macromolecules, and have unique and shared cell interactions mediated by Integrins, dystroglycan and cognate Laminin receptors. The human Laminin β-1 gene maps to chromosome 7q31.1 and is ubiquitously expressed in tissues that produce basement membranes.

REFERENCES

1. Tryggvason, K. 1993. The Laminin family. Curr. Opin. Cell Biol. 5: 877-882.
2. Schnaper, H.W., et al. 1993. Role of Laminin in endothelial cell recognition and differentiation. Kidney Int. 43: 20-25.

CHROMOSOMAL LOCATION

Genetic locus: LAMB1 (human) mapping to 7q31.1; Lamb1 (mouse) mapping to 12 A2.

SOURCE

Laminin β-1 (A-1) is a mouse monoclonal antibody raised against amino acids 1487-1786 mapping at the C-terminus of Laminin β-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Laminin β-1 (A-1) is recommended for detection of Laminin β-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:200-1:2,000), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Laminin β-1 siRNA (h): sc-29387, Laminin β-1 siRNA (m): sc-35781, Laminin β-1 shRNA Plasmid (h): sc-29387-SH, Laminin β-1 shRNA Plasmid (m): sc-35781-SH, Laminin β-1 shRNA (h) Lentiviral Particles: sc-29387-V and Laminin β-1 shRNA (m) Lentiviral Particles: sc-35781-V.

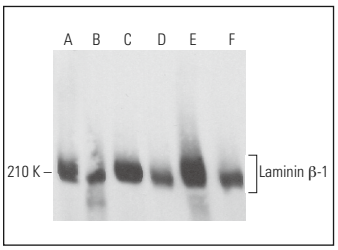
Molecular Weight of Laminin β-1: 220 kDa.

Positive Controls: JAR cell lysate: sc-2276, A-431 whole cell lysate: sc-2201 or Caco-2 cell lysate: sc-2262.

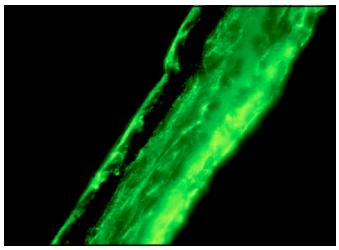
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Laminin β-1 (A-1): sc-17810. Western blot analysis of Laminin β-1 expression in A-431 (**A**), T98G (**B**), JAR (**C**), F9 (**D**), Caco-2 (**E**) and 3T3-L1 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Laminin β-1 (A-1): sc-17810. IImmunofluorescence staining of normal mouse eye frozen section showing basement membrane and trabecular meshwork staining.

SELECT PRODUCT CITATIONS

1. Rao, S., et al. 2010. Differential roles of Sall4 isoforms in embryonic stem cell pluripotency. Mol. Cell. Biol. 30: 5364-5380.
2. Isaac, J., et al. 2012. Site-specific S-nitrosylation of Integrin α6 increases the extent of prostate cancer cell migration by enhancing integrin β1 association and weakening adherence to laminin-1. Biochemistry 51: 9689-9697.
3. Chen, Q., et al. 2014. MiR-124-5p inhibits the growth of high-grade gliomas through posttranscriptional regulation of LAMB1. Neuro Oncol. 16: 637-651.
4. Lin, Q., et al. 2015. Analysis of colorectal cancer glyco-secretome identifies Laminin β-1 (LAMB1) as a potential serological biomarker for colorectal cancer. Proteomics 15: 3905-3920.
5. Kumar, S., et al. 2019. Intestinal stem cells acquire premature senescence and senescence associated secretory phenotype concurrent with persistent DNA damage after heavy ion radiation in mice. Aging 11: 4145-4158.
6. Luo, W., et al. 2021. TMEM182 interacts with Integrin β 1 and regulates myoblast differentiation and muscle regeneration. J. Cachexia Sarcopenia Muscle 12: 1704-1723.
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RESEARCH USE

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