SANTA CRUZ BIOTECHNOLOGY, INC.

Laminin α-1 (F-8): sc-74417

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 expression 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 α-1 gene maps to chromosome 18p11.31 and is over-expressed in Alzheimer disease frontal cortex.

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.
3. Engvall, E., et al. 1996. Domains of laminin. J. Cell. Biochem. 61: 493-501.
4. Luckenbill-Edds, L. 1997. Laminin and the mechanism of neuronal outgrowth. Brain Res. Brain Res. Rev. 23: 1-27.
5. Ekblom, M.P., et al. 1998. Laminin isoforms and epithelial development. Ann. Acad. N.Y. Sci. 857: 194-211.
6. Hansen, K., et al. 1999. Role of laminin isoforms in glomerular structure. Pathobiology 67: 84-91.
7. Aberdam, D., et al. 2000. Transcriptional regulation of laminin gene expression. Microsc. Res. Tech. 51: 228-237.
8. Colognato, H., et al. 2000. Form and function: the laminin family of heterotrimers. Dev. Dyn. 218: 213-234.
9. LocusLink Report (LocusID: 3907). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: LAMA1 (human) mapping to 18p11.31.

SOURCE

Laminin α-1 (F-8) is a mouse monoclonal antibody raised against amino acids 1856-2099 mapping within an internal region of Laminin α-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Laminin α-1 (F-8) is recommended for detection of Laminin α-1 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Laminin α-1 siRNA (h): sc-37125, Laminin α-1 shRNA Plasmid (h): sc-37125-SH and Laminin α-1 shRNA (h) Lentiviral Particles: sc-37125-V.

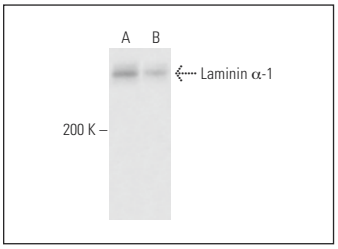
Molecular Weight of Laminin α-1: 356 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Laminin α-1 (F-8): sc-74417. Western blot analysis of Laminin α-1 expression in Caki-1 (**A**) and HeLa (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Arumugam, T., et al. 2015. New blocking antibodies against novel AGR2-C4.4A pathway reduce growth and metastasis of pancreatic tumors and increase survival in mice. Mol. Cancer Ther. 14: 941-951.
2. Álvarez, Z., et al. 2023. Artificial extracellular matrix scaffolds of mobile molecules enhance maturation of human stem cell-derived neurons. Cell Stem Cell 30: 219-238.e14.

RESEARCH USE

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